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FOREWORD

A CRITICISM of teaching method which good teachers admit is that schools usually rely too heavily on *words*—spoken, written, and printed. As a result many pupils learn less or something different from the thing they are supposed to learn; they struggle with words and word combinations, unable to translate them accurately or clearly in terms of their experiences. The current emphasis on the use of multisensory aids comes, therefore, as a timely reaction to this extreme verbalism. The use of audio-visual materials is not new in teaching, but the incentives and opportunities to use these tools of learning effectively probably now excel those of any previous period.

Consistent with its policy of making better learning opportunities available for children, the National Education Association is devoting considerable attention to audio-visual education. In cooperation with the Department of Visual Instruction the NEA established, in September 1945, a new service division in the Headquarters Staff—the Division of Audio-Visual Service. This bulletin represents another step in the pursuit of that interest.

The study reported in this issue of the *Research Bulletin* has been carried out by the Research Division, with helpful cooperation in its planning and development from the Division of Audio-Visual Service. Assembled here are basic facts and figures with respect to what has been accomplished already in making audio-visual equipment and materials available in city-school systems. Existing trends are pointed out, together with many suggestions on what remains to be achieved.

The sharp contrast between the long strides taken in some communities and the almost complete absence of audio-visual facilities in others is revealed in this report. One result of the use of this study should be the widespread reappraisal of what is being done by individual school systems. Another vital implication which runs thru the study is the necessity for teacher participation in all aspects of the audio-visual program, in its planning and management as well as in the actual classroom use of audio-visual materials.

This bulletin should be of special interest to directors of audio-visual departments, to administrators and supervisory officers, to city boards of education, and to classroom teachers who sometimes are the first in their respective communities to see the latent possibilities in a vitalized program of audio-visual education.

WILLARD E. GIVENS, *Executive Secretary*
National Education Association.

I. Audio-Visual Instruction in Current Educational Plans

Scarcely any phase of the school program can claim more widespread interest and attention than are now directed toward audio-visual procedures in education. Rapid strides made during the prewar years, especially in the development and use of educational motion pictures and radio, themselves were producing greater interest in audio-visual materials and technics. More recently, however, the extensive use of audio-visual procedures in wartime education programs has been credited, in some cases, with almost fabulous results. Teaching "the GI way" has been urged too insistently and too often for educators merely to ignore the demand.

Time for Appraisal

Everywhere the leaders in education are interested in determining the proper role of audio-visual instruction, based not on the unsupported claims of enthusiasts but on fact. Administrators and supervisors, curriculum committees, and individual teachers by the thousands are trying to find out whether or not their schools are taking full advantage of the audio-visual materials now available. Are there certain materials and devices which the schools have almost completely neglected? Are there others which are being used too infrequently or in ways that minimize their effectiveness? Is the use of audio-visual aids a passing fad, a badly overrated educational "toy" that soon will be discarded? These and related questions are being insistently raised and the answers to them being earnestly sought.

From this it should not be inferred that research in audio-visual education is just now beginning. On the contrary, evaluations of such materials as maps, pictures, charts, models, and exhibits have been made from the time educators first began to study their procedures objectively. Moreover, for more than twenty years research reports have been appearing with respect to the educational use of radio and motion pictures.[1] As a matter of fact, the recent uses of audio-visual materials represent few discoveries in educational method but have been, very largely, the application of known principles to the accomplishment of new educational tasks. Current research in the field, therefore, is simply the continuation and acceleration of a program that was well launched in prewar years.

Indicative of the current upsurge of interest in audio-visual research, at least three studies should be cited: the 1946 experimental study by Wittich and Fowlkes,[2] McCallum's recent survey of audio-visual instruction in the high schools of the South,[3] and the study now being made to determine the implications for public schools of the educational methods used by the armed forces.[4] The true worth of audio-visual procedures and their proper role in the public elementary and secondary schools of the nation will not be determined, to be sure, in any single investigation. Rather, audio-visual education will find its ultimate place in the school program as a result of the experiments, observations, and appraisals of thousands of workers as they pool their further experiences with it.

Purpose of This Study

The present report is primarily a status survey—an overview of the extent to which audio-visual education is being used in city-school systems. It is concerned with such questions as: How many city-school systems have made some kind of special provision for audio-visual education? What special equipment and materials are provided, and in what amounts? What technical and professional leadership is provided? What service is available with respect to the selection, distribution, maintenance, and use of audio-visual materials? How much is spent on audio-visual education? To what extent has audio-visual instruction permeated the entire school program? How satis-

[1] Significant early studies as well as more recent research in the field are cited in: Long, A. L. "Recent Experimental Investigations Dealing with Effectiveness of Audio-Visual Modes of Presentation." *Educational Administration and Supervision* 31: 65-78; February 1945.

[2] Wittich, Walter A., and Fowlkes, John Guy. *Audio-Visual Paths to Learning*. New York: Harper and Bros., 1946. 135 p.

[3] McCallum, William J. *Audio-Visual Aids in the Secondary Schools of the Southern Association*. Thesis. Nashville: George Peabody College of Education, 1946.

[4] Alonzo Grace, commissioner of education in Connecticut, is chairman of the national committee which is making this study. The "preliminary and exploratory" report already issued is to be followed, during the next few months, by a series of monographs available from the American Council on Education.

factory are the audio-visual programs now in operation?

Altho prevailing practice alone does not indicate what should be done in education, it can serve as a practical measure of relative progress toward accepted goals. Moreover, some of the major obstacles to further progress oftentimes are best identified and defined by a critical analysis of what is currently being done.

Scope and Method of Inquiry

This study summarizes the returns from a twenty-nine-item questionnaire distributed to superintendents of schools in all cities above 2500 in population. In view of staff limitations in personnel, cost, and time, it did not seem feasible to extend the inquiry to smaller cities and to all rural-school districts, especially since, according to the best available evidence, most of the progress in audio-visual education is being made in city systems. Aside from occasional references to related studies, the questionnaire data from the city-school systems which returned the questionnaire constitute the basis for this report.

Some readers may feel that the emphasis in the study falls too heavily on radio and motion pictures, as if these were the only devices in audio-visual education. No such implication is intended. Transcriptions and recordings of various kinds and numerous types of visual materials, both projected and nonprojected, are used in every well-balanced program of audio-visual education. These should never be overlooked irrespective of the attention given to radio and educational motion pictures.

The Questionnaire Returns

The highest percent of replies to the questionnaire came from cities over 100,000 in population, as Table 1 reveals. Two-thirds of the largest cities supplied information about their audio-visual programs, which, on the whole, are relatively more extensive than those of smaller cities. Altho the percents dropped for smaller cities, 22 percent returned the questionnaire from cities of the smallest population group.

Many of the 1037 questionnaire reports indicated, as one would expect, that the respective school systems were doing very little by way of audio-visual education. By and large, however, the percent of replies seems to have been higher from cities that have made some provision for audio-visual education than from cities having no program. A postal card follow-up to nonrespondents brought in 468 replies (see columns 5 and 6 of Table 1). These, in the ratio of two to one, indicated that their schools have no program. Among those who did not reply, even to the follow-up card, the proportion having "no program" probably is greater still. In short, it seems likely, on the basis of the replies received, that the returns included in this summary cover considerably more of the work in audio-visual education than the percent of cities included in the study would, of itself, suggest.

In the 1037 school systems whose questionnaires are summarized in this report there are 11,193 different schools; 208,985 teachers; 5,875,279 pupils. This means that, in spite of the fact that only 1037 school systems are in-

TABLE 1.—NUMBER AND PERCENT OF REPLIES TO THE INQUIRY ON AUDIO-VISUAL EDUCATION

Population group	Number of school systems in group*	Submitted a questionnaire report		Number of school systems returning the follow-up card only, and reporting:		Total replies	
		Number	Percent	No program	Limited program	Number	Percent
1	2	3	4	5	6	7	8
Over 100,000	92	60	65%	0	2	62	67%
30,000–100,000	272	111	41	18	14	143	53
10,000–30,000	780	230	29	52	49	331	42
5,000–10,000	1040	295	28	86	34	415	40
2,500–5,000	1575	341	22	163	50	554	35
Total	3759	1037	28%	319	149	1505	40%

* Since city-school systems are sometimes part of county-school units and, conversely, since there are sometimes two or more school systems in the same city, the numbers reported here vary slightly from the number of cities in each population group as given in the 1940 census. See *Research Bulletin* 23: 5; February 1945.

cluded, the programs herein described reach more than one-fifth of the nation's entire teaching staff and total pupil enrolment. Table 2 shows the distribution of schools, teachers, and pupils for the cities in each population group.

Three-fourths of the schools included are elementary schools. The remainder are almost equally divided into three types: separate junior high schools; separate senior high schools; and combined types.[5] Approximately 60 percent of the pupils and teachers are in elementary schools; 40 percent, in secondary schools.

Organization of This Report

Section II deals with the administration of audio-visual programs—with the professional leadership that is provided; with the way in which the program is organized and directed. The third section considers the extent to which audio-visual materials are used, the grade levels and areas where they are used to best advantage, and the suggestions offered for better utilization. Next, data are presented as to the kinds and amounts of equipment and materials available in city-school systems, and as to annual expenditures on audio-visual education. Finally, the respondents' own appraisals of their audio-visual programs are reported, with some suggested next steps toward more effective work in the field.

TABLE 2.—OVERVIEW OF THE QUESTIONNAIRE REPLIES

Size of city	Total replies	Represented in the replies: Schools	Teachers	Pupils
1	2	3	4	5
		Number:		
Over 100,000	60	5,034	120,770	3,546,329
30,000–100,000	111	1,931	34,716	923,312
10,000–30,000	230	1,726	24,878	658,804
5,000–10,000	295	1,431	16,870	446,937
2,500–5,000	341	1,071	11,751	299,897
Total	1,037	11,193	208,985	5,875,279
		Percent:		
Over 100,000	6%	45%	58%	60%
30,000–100,000	11	17	17	16
10,000–30,000	22	15	12	11
5,000–10,000	28	13	8	8
2,500–5,000	33	10	5	5
Total	100%	100%	100%	100%

Read table as follows: The sixty replies from cities over 100,000 in population represent more than 5,000 schools, nearly 121,000 teachers and over 3½ million pupils. These constitute 45 percent, 58 percent, and 60 percent, respectively, of all the schools, teachers, and pupils covered by this inquiry in spite of the fact that the sixty reports are only 6 percent of the 1,037 replies received. Similarly read for other population groups.

[5] Junior-senior high schools; elementary and junior high schools; twelve-year schools, etc.

II. Direction and Supervision of Audio-Visual Education

A practical question which is faced, sooner or later, in any city that makes extensive use of audio-visual materials is whether or not to establish an audio-visual center, with a specially trained director, and perhaps certain staff assistants, to supervise and coordinate the audio-visual program. To what extent have such separate centers been established in cities of various sizes?

Separate Audio-Visual Departments

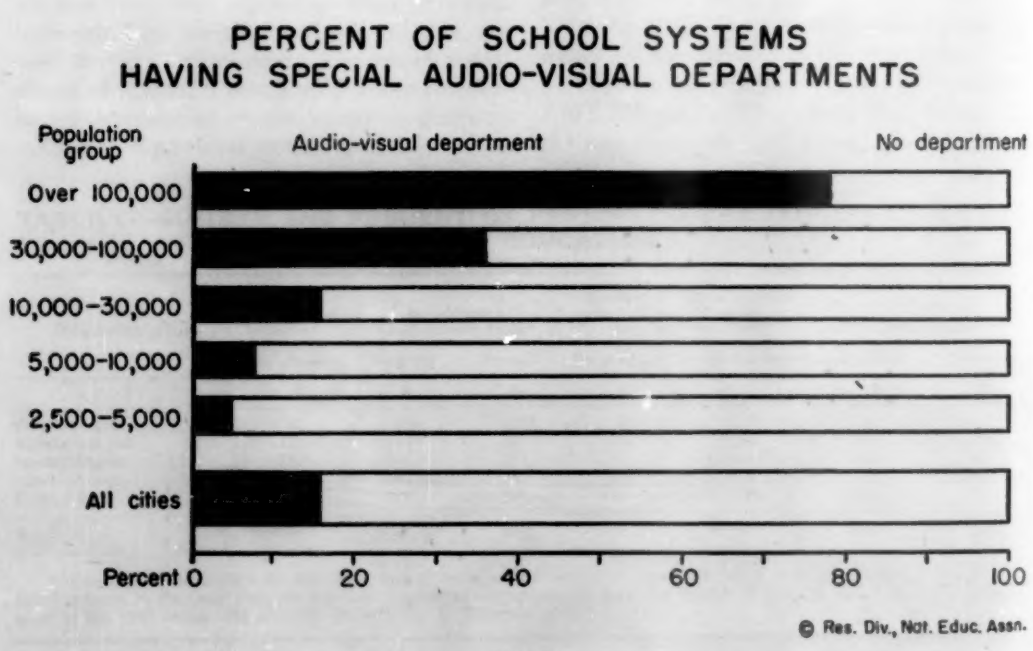
Figure I shows that more than three-fourths of the cities over 100,000 in population have created special agencies of some type to take general oversight of audio-visual instruction. More than a third of the cities 30,000 to 100,000 also have special audio-visual centers. For smaller cities the percents drop rapidly—to 5 percent for cities below 2,500 in population. In the entire group, 16 percent have special audio-visual departments.

Failure to establish a separate audio-visual department in a city-school system usually can be attributed to one of four reasons: (1) belief that audio-visual instruction should be decentralized—that the principal and teaching staff of each school can, and should, manage the entire program for that school; (2) belief that the school system is too small to warrant a special audio-visual center; (3) limited financial resources; or (4) the fact that very little use is made of audio-visual aids in the educational program. Majority practice in cities of the largest population group indicates that, at least for large city systems, the policy of centralization rather than decentralization is favored. In fact, for cities of all sizes, the school systems without special audio-visual departments are, by and large, the ones making minimum use of audio-visual materials. To a considerable degree, therefore, Figure I reflects the amount of attention being given to audio-visual instruction in the 1037 city systems included in this study.

Directors of Audio-Visual Centers

As would be anticipated, there were wide variations in type among the audio-visual cen-

FIGURE I



ters reported: differences in staff, in resource materials, and in activities and services. Table 3 is presented to indicate, first of all, the amount of time given to audio-visual education by the directors of the various central agencies. Sixty-two cities—of which more than half are in the largest population group—have full-time directors of audio-visual education, including two that have separate agencies, one for audio education and another for visual education. In the remainder of the audio-visual centers, 102 in all, the directors give something less than full time to the work.

The most commonly used title for the full-time head of an audio-visual center is: "director of audio-visual education." Eleven cities use the title "supervisor," four the term "coordinator," and six some other term such as teacher-in-charge, department head, executive assistant, or assistant in instruction. Part-time directors, too, often are designated as "directors of audio-visual education," especially when they devote one-half time, or more, to that work. Not infrequently, however, even those who give as much as one-half time to the audio-visual program carry the official title which relates to their other duties.

Among the 102 part-time directors of special audio-visual centers there are forty-eight classroom teachers, thirty-five supervisors and directors of other administrative or instructional departments, fourteen principals, four assistant superintendents, and one director of the city's public museum. Among the forty-eight teachers selected as part-time directors twenty-nine are science teachers. The supervisors who have been chosen most often to head the audio-visual program on a part-time basis are from the following fields: science, curriculum and instruction as a whole, textbook and library service, and attendance and child guidance. For both teachers and supervisors, however, nearly every field of interest is occasionally represented: social studies, English, mathematics, business education, industrial arts, art, photography, physical education, public relations, personnel, and, in one case, the director of school maintenance. Principals directing the audio-visual centers are divided somewhat in proportion to their numbers, eight of the fourteen being elementary-school principals.

Field of Responsibility

The general scope of responsibility usually assumed by central departments can be noted from Table 4. Where the directors devote full time to the work, 60 percent of the departments take in the total field of audio-visual education. Where there is only a part-time director for the agency, however, the chances are approximately even that the department is, or is not, responsible for the entire field of audio-visual education, including radio.

When analyzed by size of city (tho the data are not given in Table 4), the replies show that, for both groups below 10,000 in population, only about 40 percent of the departments cover all phases of audio-visual education and approximately that same percent confine their activities exclusively to visual education.

TABLE 3.—NUMBER OF SCHOOL SYSTEMS HAVING VARIOUS TYPES OF LEADERSHIP FOR THEIR AUDIO-VISUAL CENTERS

Population group	An audio-visual department in which the director devotes to the work:				Total
	Full time	About three-fourths time	About one-half time	Not more than one-fourth time	
1	2	3	4	5	6
Over 100,000	34[a]	0	10[b]	3	47
30,000–100,000	16	5	16	3	40
10,000–30,000	8	3	13	12	36
5,000–10,000	2	0	9	14	25
2,500–5,000	2	0	7	7	16
Total	62	8	55	39	164

[a] Two of the cities have two special departments each: one for radio education and another for visual education, with a full-time director in charge of each department.

[b] One city with a half-time director of a special audio-visual department during the past year reports that there will be a full-time director from now on.

Grade Level Served by Audio-Visual Centers

The great majority of the central agencies for audio-visual education serve both the elementary and secondary schools. This is true irrespective of whether the director of the agency devotes full time or only part time to audio-visual activities. However, as Table 5 reveals, separate audio-visual centers which serve only the secondary schools are somewhat more common in communities below 10,000 in population than in the larger cities.

Housing Arrangements for Audio-Visual Centers

In cities over 100,000 in population approximately half the special departments reported are housed in the central school administration building, or administration building annex. Three cities have special buildings, apparently either built or purchased specifically as the headquarters for their audio-visual programs. In about a dozen cities, the audio-visual centers have been established in school buildings no longer needed for classroom use—often located in areas that have become business districts. Sometimes the audio-visual center occupies one floor, one wing, or, in some cases, the whole of such a building. One department, in the large-city group, is housed at the local teachers college. In another city, the curriculum library provides space for the audio-visual center. In three cities, different parts of the work are housed in different places: the director's office in one building, perhaps the projection room in a second building, and the space for storage, distribution, and maintenance in a third.

The amount of space available as an audio-visual headquarters ranges from a single room for every function—office, workroom, storage, and projection—to a separate building with 20,000 square feet of floor space. Several respondents emphasized the importance of a central location, as an incentive to teachers to visit the center and select the materials they

TABLE 4.—SCOPE OF RESPONSIBILITY DELEGATED TO 156 CENTRAL AUDIO-VISUAL DEPARTMENTS

Scope of responsibility	Number of school systems			Percent of school systems		
	Full-time director	Part-time director	Both	Full-time director	Part-time director	Both
1	2	3	4	5	6	7
All audio-visual education, including radio	36[a]	47	83	60%	49%	53%
Audio-visual education, except radio	15	22	37	25	23	24
Visual education only	9	25	34	15	26	22
Motion pictures only	0	2	2	0	2	1
Total	60	96	156[b]	100%	100%	100%

[a] Two of the cities have two special departments each: one for radio education and another for visual education, with a full-time director in charge of each department.

[b] Eight of the 164 respondents from cities having special audio-visual centers did not report the scope of responsibility carried by their audio-visual departments. Hence this table is based on 156 cases instead of the entire 164, as shown in Table 3.

TABLE 5.—GRADE LEVELS SERVED BY SPECIAL AUDIO-VISUAL DEPARTMENTS

Grade level served	Percent of school systems reporting each provision							
	Entire group	Having full-time director	Having part-time director	Cities over 100,000	Cities 30,000-100,000	Cities 10,000-30,000	Cities 5,000-10,000	Cities 2,500-5,000
1	2	3	4	5	6	7	8	9
Both elementary and secondary	91%	94%	90%	98%	94%	94%	77%	75%
Elementary only	3	3	3	0	3	3	9	6
Secondary only	6	3	7	2	3	3	14	19
Number of cases on which percents are based	158[a]	61	97	47	38	35	22	16

[a] Not reporting on this item were 6 of the 164 cases. See footnote [b] in Table 4.

need. If the administration building is centrally located—which unfortunately is not always the case—an audio-visual center in that building, or near it, is strategically placed. The amount of space available, however, as well as the location of the center, should be taken into account when such centers are established. A number of respondents called attention to crowded conditions, or to complete lack of space for important functions—such as a workroom or projection room—as among their greatest handicaps to effective work.

Housing arrangements in smaller cities follow much the same pattern which has been described, with administration buildings and abandoned school buildings in the downtown area as the most popular choices. In addition to the general location and amount of space available, respondents from the smaller cities, especially, warned against inaccessible parts of buildings such as: basement rooms, space on the top floor where heavy equipment must be carried up and down, or wings of buildings far away from main entrances.

In many cases where directors of audio-visual education devote only part time to the work, the offices or classrooms in which their other duties are carried out become the headquarters for audio-visual education. Sometimes it will be a principal's or supervisor's office, a science laboratory, an English classroom, the workroom of the library, or the projection booth of the high-school auditorium. In addition to such makeshift arrangements there may be supplementary storage rooms, workrooms, or other facilities more or less adequate and accessible; or, at worst, no supplementary space is provided.

Staff Assistants of Audio-Visual Directors

The number of clerical and technical staff assistants provided for directors of audio-visual education varies from none to more than fifteen full-time assistants. From no city below 100,000 in population, however, is there any report of more than four assistants. The percent of directors with no assistants—without even part-time helpers—ranges from 3 percent for cities of the largest class to 100 percent for cities 2500 to 5000 in population. Table 6 shows the number and percent of cities providing different sized audio-visual staffs, when grouped by city size and on the basis of whether or not the director devotes full time to audio-visual education. Where any provision for assistants is made, the most common number of assistants is one to four persons.

TABLE 6.—NUMBER OF TECHNICAL AND CLERICAL ASSISTANTS IN 144 AUDIO-VISUAL CENTERS *

Number of assistants	All groups	Centers in which the director gives:		Cities of various sizes				
		Full time	Part time	Over 100,000	30,000-100,000	10,000-30,000	5,000-10,000	2,500-5,000
1	2	3	4	5	6	7	8	9
				Number of cities making each provision:				
None[a]	71	16	55	1	14	26	14	16
Part time[b]	16	3	13	3	4	5	4	0
1 to 4	43	22	21	23	12	4	4	0
5 to 9	7	7	0	7	0	0	0	0
10 to 14	4	4	0	4	0	0	0	0
15 or more	3	3	0	3	0	0	0	0
				Percent of cities making each provision:				
None[a]	49%	29%	62%	3%	47%	74%	64%	100%
Part time[b]	11	5.5	14	7	13	14	18	0
1 to 4	30	40	24	56	40	12	18	0
5 to 9	5	13	0	17	0	0	0	0
10 to 14	3	7	0	10	0	0	0	0
15 or more	2	5.5	0	7	0	0	0	0

* The number of assistants was not reported for 20 of the 164 special audio-visual departments.

[a] A few directors without paid assistants report that they have the voluntary part-time help of certain teachers, pupils, or clerks from other offices.

[b] In this category the total time devoted to the audio-visual department, whether by one or more than one person, is less than the equivalent of one full-time position.

Services Rendered by Audio-Visual Departments

Respondents from all the cities having audio-visual centers were asked to check all the services and functions performed by their respective agencies. The results, as reported for full-time and part-time directors, respectively, and for cities of different sizes, are summarized in Table 7. In addition to the total frequencies for the various types of services, as shown in column 2, the percent performing each function in each group of centers will be of special interest to many readers. If one is interested, for example, in the services rendered by audio-visual departments in cities from 10,000 to 30,000 in population, he will want to note in column 7 such facts as that only half of the thirty-four departments included here provide photographic service for the schools, and that only 38 percent are prepared to develop audio-visual materials upon request. Those interested in other types of audio-visual departments, or perhaps in certain specific types of service, will wish to make similar comparisons.

A substantial break occurs between the first eleven and last four items in the table. The former tend to be *must* items for the majority of audio-visual departments, whereas the latter might be regarded as *optional* services. In the largest cities relatively more audio-visual departments concern themselves with the preparation of teachers' bulletins on audio-visual materials. Conversely, relatively few departments in the large cities provide skilled operators for audio-visual equipment and service the requests of PTA's and other community groups.

School Systems without Audio-Visual Centers

So far the discussion of this section has been focused on cities having special agencies for the promotion and coordination of audio-visual

TABLE 7.—NUMBER AND PERCENT OF AUDIO-VISUAL DEPARTMENTS PERFORMING EACH OF 15 FUNCTIONS OR SERVICES

Service	Total frequency of mention	Percent of departments performing each function						
		With full-time directors	With part-time directors	In cities over 100,000	In cities 30,000-100,000	In cities 10,000-30,000	In cities 5,000-10,000	In cities 2,500-5,000
1	2	3	4	5	6	7	8	9
Scheduling equipment and materials for school use	150	95%	97%	96%	97%	94%	100%	94%
Storage and maintenance of equipment	147	95	94	91	97	97	91	94
Advice to teachers as to instructional aids pertaining to their work	147	97	93	91	95	100	91	94
Selection and purchase of equipment and instructional materials	136	93	83	96	89	91	68	75
Classification and storage of instructional materials	135	95	81	87	100	94	64	69
Ordering, delivering, and returning of free and rental materials	135	77	93	78	84	91	100	88
Delivery service within the school system for equipment and materials	133	90	82	80	89	85	91	81
Conferences, demonstrations, and other forms of teacher education with respect to the effective use of audio-visual equipment and materials	128	93	75	89	84	88	64	69
Servicing community requests for audio-visual equipment and materials (PTA and other groups)	125	80	80	67	79	91	86	88
Providing operators for projectors, voice recording equipment, etc.	103	55	73	46	61	71	86	100
Weekly or monthly bulletins suggesting available materials	86	63	50	67	47	56	55	38
Development of materials on request—recordings, special slides, films, charts, models, etc.	63	55	31	52	37	38	36	25
Photographing significant school activities	62	55	30	50	42	50	9	25
Directing school-sponsored radio programs presented from commercial stations	26	23	13	30	13	18	0	6
Directing programs for a school-operated radio station	8	5	5	7	8	3	0	6
Number of respondents in group	156*	60	96	46	38	34	22	16

* Not reporting on this item were 8 of the 164 cities having special audio-visual departments.

instruction. Yet such cities are relatively few in number: 164 of the 1037 whose questionnaire reports are being summarized. Some of the cities without special audio-visual centers are also making important strides in the use of special instructional aids. Table 8 indicates the form of leadership found in all the cities covered by this inquiry, including the 873 cities without special agencies.

In nearly a third of all the cities reporting (in 45 percent of those between 2500 and 5000 in population), someone with other major responsibilities—often with another full-time job—is simply designated to do what he can to encourage and assist the teachers in using audio-visual materials. From 2 to 8 percent of the cities of various sizes have special audio-visual committees that work on the problem. For the most part, other cities have no special arrangement for leadership, but leave the matter entirely to the discretion and initiative of individual principals and teachers.

The reports from cities in which some one person is asked to coordinate the work and from those with audio-visual committees show that staff members in the following order serve as coordinators and committee chairmen:

Staff position	*Number serving as:* Coordinators	Committee chairmen
Classroom teachers	151	25
Superintendents (or assistants)	60	3
High-school principals (or assistant principals)	32	7
Supervisors and directors	28	3
Elementary principals	23	2
Librarians	9	2
Junior high-school principals	7	5
Not specified	17	12
Total	327	59

In an earlier paragraph the frequent choice of science teachers as part-time directors of audio-visual departments was mentioned. Here their choice as committee chairmen and coordinators of audio-visual instruction is equally striking, as they account for eighty-eight (or exactly half) of the total number of classroom teachers who serve in these capacities.

TABLE 8.—ARRANGEMENTS FOR LEADERSHIP IN AUDIO-VISUAL EDUCATION IN CITY-SCHOOL SYSTEMS

Population groups	Cities with special audio-visual departments[a]	Cities without audio-visual departments	Someone is designated to coordinate or supervise the work	An audio-visual committee coordinates the work	Each principal coordinates audio-visual work in his own school	Other arrangements	No coordination; each teacher is personally responsible
1	2	3	4	5	6	7	8
	Number of cities reporting each type of practice:						
Over 100,000	47	13	6	1	4	0	2
30,000–100,000	40	71	25	6[b]	30[b]	1[e]	9[d]
10,000–30,000	36	194	52	17	82	6[e,f]	37
5,000–10,000	25	270	89	22	95	6[e]	58
2,500–5,000	16	325	155[b]	13	96	1[f]	60[b]
Total	164	873	327	59	307	14	166
	Percent of cities:						
Over 100,000	78%	22%	10%	2%	7%	0%	3%
30,000–100,000	36	64	23	5	27	1	8
10,000–30,000	16	84	23	7	36	2	16
5,000–10,000	8	92	30	8	32	2	20
2,500–5,000	5	95	45	4	28	*	18
Percent for all cities	16%	84%	32%	6%	29%	1%	16%

* Less than half of 1 percent.

[a] As reported in Table 3 and Figure I.

[b] One city in this group reported that, beginning in 1946-47, there will be a special audio-visual department with a part-time director in charge.

[c] One school system in this group is served by a countywide audio-visual department.

[d] One city, beginning in 1946-47, will have a special department with a full-time director in charge.

[e] There is a different plan for elementary and secondary schools: for example, a part-time director of audio-visual education directs the work for the high schools while at the elementary level each principal directs the work in his own school.

[f] Responsibility is shared by more than one agency, especially libraries, science departments, and school principals.

Selection of Equipment and Material

The final aspect of audio-visual supervision with which this study deals is the matter of selecting equipment and materials. The manner in which this is done varies greatly from city to city, of course. Also, as many of the respondents stated, the same method is not always followed in the same city for selecting different items and even when selecting similar materials on different occasions. All such variations were fully anticipated when the questionnaire was developed, yet it seemed advisable to inquire what person or group *usually carries chief responsibility* when new equipment is to be purchased and when audio-visual materials are being selected for instructional purposes.

Tables 9 to 12 indicate the prevailing practices with respect to: (1) selecting equipment for purchase—projectors, radios, etc.; (2) selecting films, recordings, slides, etc., for purchase; (3) selecting films and other materials for rental use; and (4) judging the suitability of free films being considered for use in the schools. The tables are set up to bring out differences in practice between the groups of cities having special audio-visual departments and those having none. Analysis of the data showed no clearly marked differences among the cities of various sizes.

In two-thirds of the cities with audio-visual centers the director of audio-visual education usually has chief responsibility for selecting new equipment. In other cities the superintendent of schools, principals, supervisors, teachers, or schoolboard committees may make the selection—the superintendent in more than half the cases. Representative staff committees are given chief responsibility for selecting new equip-

TABLE 9.—PERSON OR GROUP USUALLY EXERCISING CHIEF RESPONSIBILITY FOR THE SELECTION OF AUDIO-VISUAL EQUIPMENT TO BE PURCHASED

Person or group usually responsible	Number			Percent		
	Whole group	Systems with an audio-visual department	Systems with no audio-visual department	Whole group	Systems with an audio-visual department	Systems with no audio-visual department
1	2	3	4	5	6	7
Superintendent of schools	302	8	294	45%	8%	52%
Principal of each school	111	9	102	17	9	18
Representative staff committees	111	18	93	17	17	16
Director of audio-visual education	97	66	31	15	64	5
Teachers—each for his own use	23	1	22	3	1	4
Supervisors and assistant superintendents	17	1	16	2	1	3
Committee of board of education	9	0	9	1	0	2
Business manager	1	0	1	*	0	*
Total	671	103	568	100%	100%	100%
Not reporting on this item	366	61	305	..	..	..

* Less than half of 1 percent.

TABLE 10.—PERSON OR GROUP USUALLY EXERCISING CHIEF RESPONSIBILITY FOR THE SELECTION OF THE FILMS, RECORDINGS, ETC., TO BE PURCHASED

Person or group usually responsible	Number			Percent		
	Whole group	Systems with an audio-visual department	Systems with no audio-visual department	Whole group	Systems with an audio-visual department	Systems with no audio-visual department
1	2	3	4	5	6	7
Teachers—each for his own classes	220	10	210	39%	11%	44%
Representative staff committees	125	35	90	22	38	19
Principal of each school	86	1	85	15	1	18
Director of audio-visual education	60	35	25	11	38	5
Superintendent of schools	54	0	54	9	0	11
Supervisors and assistant superintendents	14	6	8	2	6	2
Committee of board of education	13	6	7	2	6	1
Total	572	93	479	100%	100%	100%
Not reporting on this item	465	71	394	..	..	..

ment in 17 percent of the cities reporting, and apparently are delegated this function with about the same frequency irrespective of whether or not there is a special audio-visual department.

In the selection of films, slides, recordings, and other audio-visual materials for purchase, classroom teachers and representative staff committees more often carry chief responsibility than is the case in selecting new equipment. Only 38 percent of the directors of special audio-visual departments retain this function as an individual responsibility, altho doubtless all of them cooperate and give advice with respect to materials being considered. The relatively large role granted to principals and teachers in selecting materials for purchase, whether individually or as members of staff committees, recognizes the importance of having materials selected in terms of actual classroom needs.

The same generalization applies, and even with stronger force, to teacher participation in selecting films and other audio-visual materials for rental use. The order of item arrangement in Tables 10 and 11, which indicates total frequency of practice in all the cities reporting, is quite similar.

In determining the suitability of free films for classroom use directors of audio-visual departments have a relatively more prominent role. Forty-four percent of them usually exercise the chief responsibility for investigating and passing judgment upon the suitability of

TABLE 11.—PERSON OR GROUP USUALLY EXERCISING CHIEF RESPONSIBILITY FOR THE SELECTION OF FILMS, ETC., BEING CONSIDERED FOR RENTAL USE

Person or group usually responsible	Number			Percent		
	Whole group	Systems with an audio-visual department	Systems with no audio-visual department	Whole group	Systems with an audio-visual department	Systems with no audio-visual department
1	2	3	4	5	6	7
Teachers—each for his own classes	368	34	334	58%	37%	61%
Representative staff committees	91	20	71	14	22	13
Principal of each school	90	6	84	14	7	15
Director of audio-visual education	52	27	25	8	29	5
Superintendent of schools	19	0	19	3	0	4
Committee of board of education	11	3	8	2	3	2
Supervisors and assistant superintendents	4	2	2	1	2	*
Librarian	1	0	1	*	0	*
Total	636	92	544	100%	100%	100%
Not reporting on this item	401	72	329	..	..	..

* Less than half of 1 percent.

TABLE 12.—PERSON OR GROUP USUALLY EXERCISING CHIEF RESPONSIBILITY FOR JUDGING THE SUITABILITY OF FREE FILMS USED IN THE SCHOOLS

Person or group usually responsible	Number			Percent		
	Whole group	Systems with an audio-visual department	Systems with no audio-visual department	Whole group	Systems with an audio-visual department	Systems with no audio-visual department
1	2	3	4	5	6	7
Teachers—each for his own classes	239	26	213	41%	27%	44%
Principal of each school	103	1	102	17	1	21
Representative staff committees	92	19	73	16	20	15
Director of audio-visual education	86	43	43	15	44	9
Superintendent of schools	40	0	40	7	0	8
Committee of board of education	13	4	9	2	4	2
Supervisors and assistant superintendents	12	4	8	2	4	1
Librarian	1	0	1	*	0	*
Total	586	97	489	100%	100%	100%
Not reporting on this item	451	67	384	..	..	..

* Less than half of 1 percent.

such proffered materials. Representative staff committees give attention to this problem in about the same proportion as was shown for the selection of new equipment. In cities without audio-visual departments the principals, too, quite often carry chief responsibility for such judgments. Probably there would be wide disagreement in professional groups as to whether or not, generally speaking, it is wise to leave this matter wholly to individual teachers, allowing each one of them to select and reject free materials for his own classes, as is now reported from 27 percent of the cities having audio-visual departments and from 44 percent of all the other participating cities.

No Single Pattern

Standing out in clear relief from the descriptions just presented is the conclusion that no single administrative plan has yet demonstrated its general superiority for all cities of a given class. Infinite variations in policies and procedures are entirely feasible, even when striving to reach similar goals.

The need for some type of special leadership and coordination for audio-visual education is rather clearly indicated, whether provided by a full-time director of a special audio-visual center, by some interested individual who will give special attention to the problem, or by a representative staff committee. The size of the school system, the audio-visual resources and degree of development of the audio-visual program, and other local considerations will influence the type and amount of leadership which ought to be provided in a given situation. Likewise, the audio-visual resources provided in the school system, together with the interests and needs of the teaching staff, will affix certain limits to the scope of the audio-visual program and will indicate the services and activities most appropriate for those who direct it. Finally, in the selection of equipment and materials, an effective balance should be maintained between judgments that are based on technical and professional considerations and those that pertain to specific classroom needs.

III. Use of Audio-Visual Materials

Even the most elaborate administrative provisions for audio-visual education are of little consequence unless the teachers actually make frequent and effective use of audio-visual materials. Yet, accurate information about usage is extremely difficult to compile, for accurate, cumulative records are almost nonexistent as to the number of times various instructional aids are used, to say nothing of valid appraisals as to the effectiveness of each presentation. This study goes no further than to summarize the considered judgments of those who returned the questionnaire—usually the director of audio-visual education or the superintendent of schools, if there was no director—with respect to the extent and quality of the "use" program. Such judgments are not infallible, but it is hoped that they will provide a better general overview of the classroom use of audio-visual materials than is now available from other sources.

General Appraisal of the Total Program

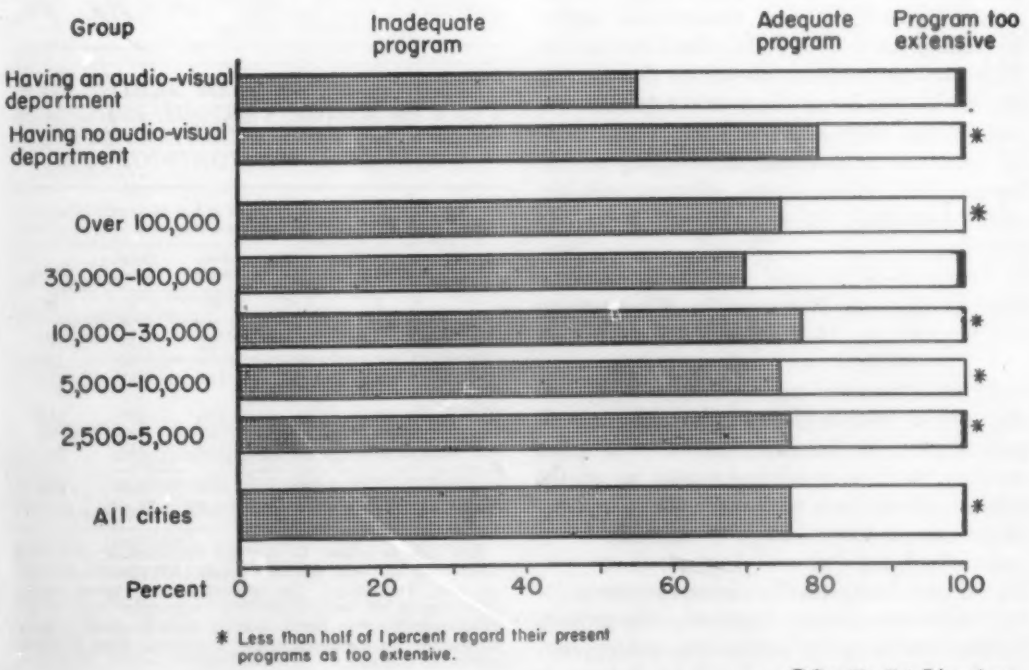
As the first step in appraising audio-visual education, as it is now being carried on in city-school systems, respondents were asked this question: *How would you appraise the audio-visual program of your school system?* Three alternative answers were given, one to be checked:

( ) We are putting too much time, energy, and money into such materials
( ) Our program seems well balanced and adequate
( ) We are making too little use of audio-visual aids.

Figure II shows how general the dissatisfaction is with the extent and quality of present programs and how few of the respondents believe that too much attention is being given to audio-visual education. Three out of four allege that too little use is being made of

FIGURE II

SELF-APPRAISAL OF AUDIO-VISUAL PROGRAMS BY 1009 RESPONDENTS



* Less than half of 1 percent regard their present programs as too extensive.

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audio-visual aids in their respective school systems. The only wide exception to this opinion was voiced by respondents from those cities below 30,000 in population in which there are special audio-visual departments. In these small cities with special departments, only 42 to 50 percent of the respondents appraised their programs as inadequate. This may mean a difference in standards with respect to what a good program should be; or, it may mean that the cities in that group actually have gone farthest toward optimum use of instructional aids. By way of contrast, in cities over 100,000 in population, again limiting the group to those having special audio-visual departments, 70 percent of the respondents regard their programs as still far from adequate.

Grade Level at Which the Audio-Visual Program Is Strongest

In the two groups of largest cities (30,000-100,000 and over 100,000 in population) and in all cities having special audio-visual departments, the weight of opinion is that elementary teachers are making more extensive use of audio-visual materials than are teachers in junior or senior high schools. In the three groups of smaller cities, on the other hand, and in cities having no audio-visual departments, senior high-school teachers are said to be leading the way in audio-visual instruction. This contrast is clearly shown by the percents in Table 13. In making this appraisal the respondents were asked to think in terms of all types of audio-visual aids—radio, recordings, models, charts, maps, pictures, exhibits, slides, filmstrips, and so on as well as motion pictures.

Use of Motion Pictures in Elementary Schools

In the absence of more accurate records on the use of motion picture films, the schools participating in this investigation were asked to give the best possible estimate as to the percent of teachers who make use of educational motion picture films, "frequently," "occasionally," and "never." Instead of attempting to derive the total *weighted* percents for the different groups, however, the reports simply were compiled in the form of frequency distributions as shown in Table 14. Subject to the accuracy of the estimates submitted, the medians of these percent distributions indicate the relative frequency of use for motion picture films.

The first three items in Table 14, when combined, indicate majority practice; that is, they indicate the relative frequency with which films are used in the classrooms of 50 to 100 percent of the teachers. Interpreted in this

TABLE 13.—GRADE LEVELS AT WHICH ALL TYPES OF AUDIO-VISUAL AIDS ARE USED MOST EXTENSIVELY IN CITY SCHOOLS

Group	Number of replies	Grade level at which audio-visual aids are used most extensively—percent of school systems		
		Elementary schools	Junior high schools	Senior high schools
1	2	3	4	5
Size of city:				
Over 100,000	57	65%	16%	19%
30,000–100,000	100	45	26	29
10,000–30,000	211	32	18	50
5,000–10,000	251	31	16	53
2,500–5,000	289	23	11	66
Administrative plan:				
Having an audio-visual department	153	52%	19%	29%
Having no audio-visual department	755	29	15	56
All cities reporting on this question	908	32%	16%	52%
Not reporting on this item.	129	..	..	..

TABLE 14.—NUMBER OF SCHOOL SYSTEMS IN WHICH VARIOUS PERCENTS OF ELEMENTARY TEACHERS USE EDUCATIONAL MOTION PICTURES

Percent of teachers who use films	Number of school systems reporting each degree of use		
	Frequently	Occasionally	Never
1	2	3	4
100%—all the teachers	54	57	119
75–99% of them	74	64	165
50–74% of them	120	155	112
25–49% of them	111	190	113
1–24% of them	229	243	156
0%—none of them	320	199	243
Number reporting this item	908	908	908
Median percent of teachers	15.0%	26.6%	37.2%

Read table as follows: In 54 of the 908 school systems which reported on this item, all the teachers (100 percent of them) use films "frequently." The numbers increase where smaller percentages of the teachers use films "frequently" until in 320 school systems (more than a third of those involved) none of the teachers make frequent use of educational films. Similarly read other columns.

way, there are 248 school systems (27 percent of those included) in which a majority of the teachers use films frequently; 276 (or 30 percent) in which a majority use them occasionally; and 396 (or 43 percent) in which a majority of the teachers make no use whatever of educational films. The median percents of teachers, as shown for columns 2, 3, and 4, imply that in the typical school system about 15 percent of the elementary teachers use films frequently as contrasted with 37 percent who never use them.

Table 15 presents a summary of all the median percents when calculated for different groups of cities. These medians show how much more extensively motion pictures are used by elementary teachers in cities that have established special audio-visual centers than in cities without such departments; also, how much more extensively films are used in the larger cities. The contrasts among the medians in the columns headed "frequently" and "never," respectively, are particularly significant.

TABLE 15.—MEDIAN PERCENTS OF ELEMENTARY-SCHOOL TEACHERS IN DIFFERENT GROUPS OF CITY-SCHOOL SYSTEMS WHO USE EDUCATIONAL MOTION PICTURES

Group	Number of replies	Median percent of teachers using films		
		Frequently	Occasionally	Never
1	2	3	4	5
Having an audio-visual department	149	33.2%	29.8%	24.3%
Having no audio-visual department	759	11.6	25.4	41.2
Over 100,000	48	37.5%	32.1%	35.5%
30,000–100,000	103	20.0	24.7	41.4
10,000–30,000	211	14.3	21.5	45.6
5,000–10,000	258	14.2	23.6	43.9
2,500–5,000	288	8.6	34.5	22.3
All cities reporting on this item	908	15.0%	26.6%	37.2%

Inquiry was made as to the curriculum fields in which elementary-school teachers are making the most effective use of teaching films. No fields were listed for checking; space was merely provided in which the respondents could designate one or a dozen fields, as they saw fit to do. From these entirely spontaneous replies Table 16 has been compiled, showing the total frequency of mention for each of ten curriculum fields. Social studies and science strongly lead all the rest.

TABLE 16.—CURRICULUM FIELDS IN WHICH ELEMENTARY TEACHERS ARE MAKING MOST EFFECTIVE USE OF TEACHING FILMS

Curriculum field	Number of times mentioned as a field of most effective film use
1	2
Social studies	730
Science	487
Health	139
English	82
Safety	47
Music	30
Art	26
Practical arts	19
Physical education	12
Mathematics	3
Number reporting this item	816
Number not reporting	221

It should be kept in mind, of course, that some very good work with films probably is being done in curriculum areas that were not reported here. This would be true wherever such good work is merely overshadowed by more effective audio-visual programs being carried out in other fields. These appraisals, however, reflect a difference in emphasis and effective use which should be of interest to producers, distributors, and users of educational films. No essential differences in rank could be noted when the frequencies were analyzed by size of city or from cities with and without special audio-visual centers.

Use of Motion Pictures in Secondary Schools

Using tabulations identical in character to those just presented for elementary schools, the following summary of practice at the junior high-school level may be given.

First, 29 school systems report that all their junior high-school teachers use films "frequently," but 158 that none of their teachers belong in that category. Also, 29 school systems report that all their teachers would have to be classified as "never" making use of instructional films.

Second, in terms of majority practice, 29 percent of the school systems report that 50 to 100 percent of their junior high-school teachers

use films frequently; 33 percent that the majority use them occasionally; and 38 percent that the majority make no use of teaching films.

Third, the medians of the percent distributions, which are summarized in Table 17, altho showing some variation with size of city and according to the presence or absence of an audio-visual center, lie somewhat closer together than the corresponding medians for elementary schools. In general, these medians imply that, in the typical junior high school, about a fourth of the teachers use motion pictures frequently but that an even larger number, approximately one in three, make no use whatever of educational films.

TABLE 17.—MEDIAN PERCENTS OF JUNIOR HIGH-SCHOOL TEACHERS IN DIFFERENT GROUPS OF CITY-SCHOOL SYSTEMS WHO USE EDUCATIONAL MOTION PICTURES

Group	Number of replies	Median percent of teachers using films		
		Frequently	Occasionally	Never
1	2	3	4	5
Having an audio-visual department	124	36.3%	28.0%	30.9%
Having no audio-visual department	525	21.1	33.8	34.6
Over 100,000	45	34.9%	24.3%	39.0%
30,000–100,000	82	24.1	28.9	36.5
10,000–30,000	165	22.9	27.3	43.2
5,000–10,000	181	21.2	34.3	34.5
2,500–5,000	176	25.9	39.9	19.8
All cities reporting on this item	649	24.4%	32.6%	33.5%

At the senior high-school level relatively fewer school systems report that all their teachers are using educational films "frequently"—only 2 percent. But conversely, smaller percents of senior high schools than for either elementary or junior high schools report: (1) that none of the teachers use films "frequently," and (2) that the entire staff "never" uses films. At this level, apparently, films are finding their way into most classrooms at least occasionally.

Majority practice at the senior high-school level is reported as follows: in 24 percent of the cities here included 50 to 100 percent of the staff make frequent use of educational films; in 33 percent, the majority make occasional use of films; and in 43 percent, the majority group use no motion pictures. It should be kept in mind, of course, that even in school systems of the latter type some of the teachers—perhaps a substantial minority—may be using motion pictures quite frequently, and quite effectively.

The median percents for senior high-school teachers, corresponding to those already given for elementary and junior high schools, are presented in Table 18. In this array of medians one trend at the high-school level stands in direct contrast to that at the elementary level. It is in the smaller cities that the higher median percents of senior high-school teachers make frequent use of motion pictures. And conversely, the larger the city the higher is the median percent of high-school teachers who make no use of films.

TABLE 18.—MEDIAN PERCENTS OF SENIOR HIGH-SCHOOL TEACHERS IN DIFFERENT GROUPS OF CITY-SCHOOL SYSTEMS WHO USE EDUCATIONAL MOTION PICTURES

Group	Number of replies	Median percent of teachers using films		
		Frequently	Occasionally	Never
1	2	3	4	5
Having an audio-visual department	146	29.1%	32.2%	43.5%
Having no audio-visual department	691	22.4	34.1	38.9
Over 100,000	53	20.7%	29.2%	56.0%
30,000–100,000	98	21.1	30.7	53.1
10,000–30,000	199	22.9	27.2	51.5
5,000–10,000	232	26.6	34.5	38.1
2,500–5,000	255	24.1	40.9	18.9
All cities reporting on this item	837	23.6%	33.7%	39.9%

With reference to the curriculum fields in which the most effective use of films is being made at the high-school level, respondents were not asked to differentiate between junior and senior schools. They were asked merely to name the curriculum fields at the secondary level—whatever number they cared to list—in which the use of films is most effective in their respective schools. In Table 19, which parallels Table 16 for elementary schools, science easily leads the field. Social studies stand in second position, followed by the practical arts, health, and English—each mentioned more than one hundred times.

TABLE 19.—CURRICULUM FIELDS IN WHICH JUNIOR AND SENIOR HIGH-SCHOOL TEACHERS ARE MAKING MOST EFFECTIVE USE OF FILMS

Curriculum field	Number of times mentioned as a field of most effective film use
1	2
Science	803
Social studies	714
Practical arts	317
Health	128
English	121
Physical education	66
Music	39
Foreign language	29
Safety	20
Art	19
Mathematics	9
R.O.T.C.	2
Number reporting on this item	913

Intergrade-Level Comparisons

Selected items from the data summarized in the two preceding subsections are brought together in Table 20. The first three rows in this table show higher percents of city-school systems in which all the elementary teachers either use films frequently, or have not begun to use them at all, than is true for junior or senior high-school teachers. The next three rows show a rather striking similarity in the percent of school systems at each grade level in which "majority practice" involves the use of films "frequently," "occasionally," and "never" at each of the three grade levels. The median percent of teachers making use of films at frequent intervals is somewhat higher at the secondary than at the elementary level, but the median percent not using them at all is substantially the same at all grade levels. Finally, the leading curriculum fields are again included, with social studies and science as the first two items, but standing in reverse order for elementary and secondary schools.

TABLE 20.—SELECTED INDICES OF FILM USE IN ELEMENTARY AND SECONDARY SCHOOLS

Item for comparison	Estimated use of films in		
	Elementary schools	Junior high schools	Senior high schools
1	2	3	4
Percent of school systems reporting that *all the teachers* use films "frequently"	6%	5%	2%
Percent of school systems reporting that *none of the teachers* use films "frequently"	36	24	18
Percent of school systems reporting that *all the teachers* "never" use films	13	5	2
Percent of school systems reporting that 50–100 percent of the teachers use films:			
Frequently	27	29	24
Occasionally	30	33	33
Never	43	38	43
Median percent of teachers who use films "frequently"	15.0	24.4	23.6
Median percent of teachers who "never" use films	37.2	33.5	39.9
Leading curriculum fields for film use	Social studies, science	Science, social studies, and practical arts	

Areas Most in Need of Audio-Visual Materials

Opinions were solicited with respect to the curriculum areas and grade levels, respectively, where the need is greatest for more audio-visual materials. The question presented was: *In what curriculum areas does your school system have the greatest need for more audio-visual materials?*

Curriculum area Grade level

. . . . . .

. . . . . .

Table 21, which summarizes reports from 757 respondents, is arranged by the total frequency of mention of each curriculum field. The final

TABLE 21.—CURRICULUM AREAS HAVING THE GREATEST NEED FOR MORE AUDIO-VISUAL MATERIALS

Curriculum area	Frequency of mention, by grade level			Total frequency of mention
	Elementary schools	Junior high schools	Senior high schools	
1	2	3	4	5
Social studies	212	149	197	316
English	161	128	195	275
Science	119	94	128	203
Mathematics	60	69	96	118
Health	55	24	36	69
Practical arts	12	34	60	68
Foreign language	....	16	40	41
Safety	18	12	12	22
Music	15	15	16	20
Art	8	8	9	15
Physical education	2	7	7	9
All curriculum areas	139	71	88	158
Total	801	627	884	1314
Number reporting on this item				757

row at the bottom of the table, in spite of the overlapping involved, indicates in a general way the relative frequency with which the needs of the three grade levels were cited.

Social studies, English, and science are the three specific areas most frequently named, and the order of frequency is the same for all grade levels. Among the other areas listed, the chief grade-level difference is a somewhat greater emphasis on the need for audio-visual materials on health and safety for elementary schools, and materials relating to the practical arts, foreign language, and mathematics at the secondary level. Such differences parallel in a general way the usual difference in emphasis on these subjects at each grade level.

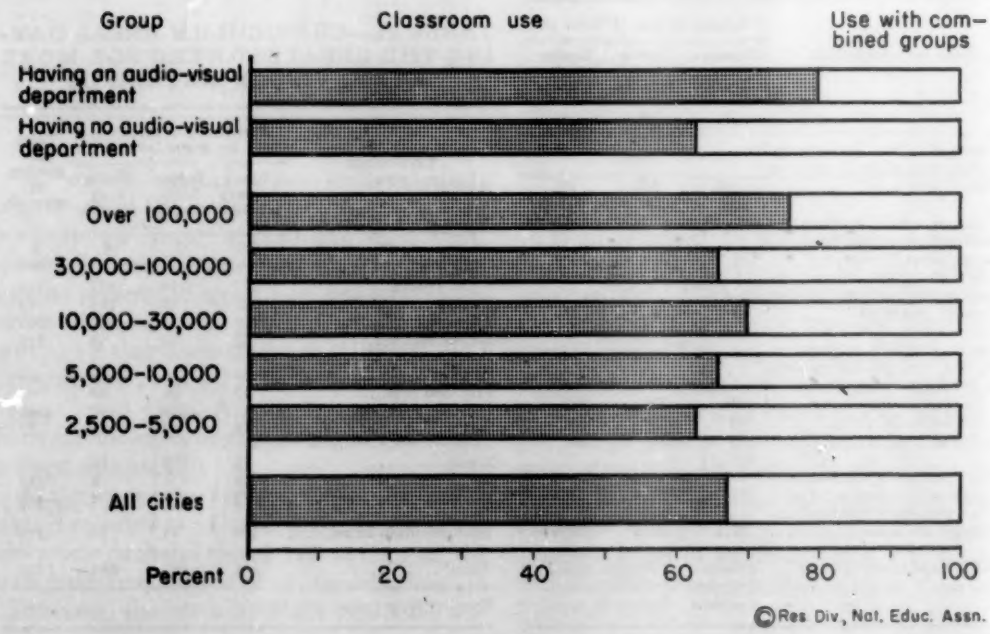
Classroom versus Auditorium Use of Motion Pictures

A common criticism of film usage in public schools is that motion pictures too infrequently are used as genuine teaching aids. Instead of obtaining films to serve specific teaching needs and using them at times that are psychologically appropriate, teachers have sometimes used whatever films came to hand and at whatever time they were available. In other words, entertainment rather than teaching has been prominent in the film programs of many schools. As one writer puts it, the schools have usually been too willing to show to all the pupils, irrespective of what they are studying, an available film on "Scenic Trails in Zanzibar" or "Spring Comes to the Mocking Bird"! One imperfect measure, yet surely a significant one, is a comparison of the percent of films shown in actual classroom teaching situations with the percent presented in auditoriums or at least to combined class groups. Such a comparison, as reported by 960 school systems, is afforded by Figure III.

The outstanding feature in these comparisons is the higher median percent of films used in classroom situations in those school systems which have audio-visual departments than in the group without such centers. A related trend that will be noted is a decrease in percent of classroom use which roughly follows the decreases in size of city.

FIGURE III

MEDIAN PERCENT OF FILMS SHOWN IN CLASSROOM TEACHING SITUATIONS AS COMPARED WITH THE PERCENT SHOWN IN AUDITORIUMS, OR TO COMBINED CLASS GROUPS



IV. Equipment and Materials

The types and amounts of special equipment and materials provided for audio-visual instruction in a given school system fix a definite ceiling to the use that teachers can make of such materials. Excellent equipment may sometimes stand unused; but unless suitable equipment and materials are available, teachers obviously must resort to other methods of presentation. This section of the report deals with the question: What are the major items of audio-visual equipment and materials provided in city-school systems, and in what amounts are these items available?

The data here presented do not tell the complete story with reference to the audio-visual equipment and materials that are available in the cooperating cities. The amounts reported tend to understate the total supply. Special equipment owned by individual schools or by parent-teacher associations sometimes is omitted from general citywide property inventories, and certain instructional materials, especially, are likely to be available in the schools without there being a definite record of them in the central administrative office. Altho these facts were fully recognized, the questionnaire merely asked for the best possible report on the major items of audio-visual equipment and material which could be given from central-office records—not a comprehensive school-by-school inventory. Usually the reports are said to cover the situation in the entire city system, altho in a few cases the data are known to apply only to the equipment and materials available thru the central audio-visual department. It is probably true that the amount of unreported materials in individual schools is relatively greater in the larger city systems, especially in large cities in which there are no special audio-visual centers.

Audio-Visual Equipment

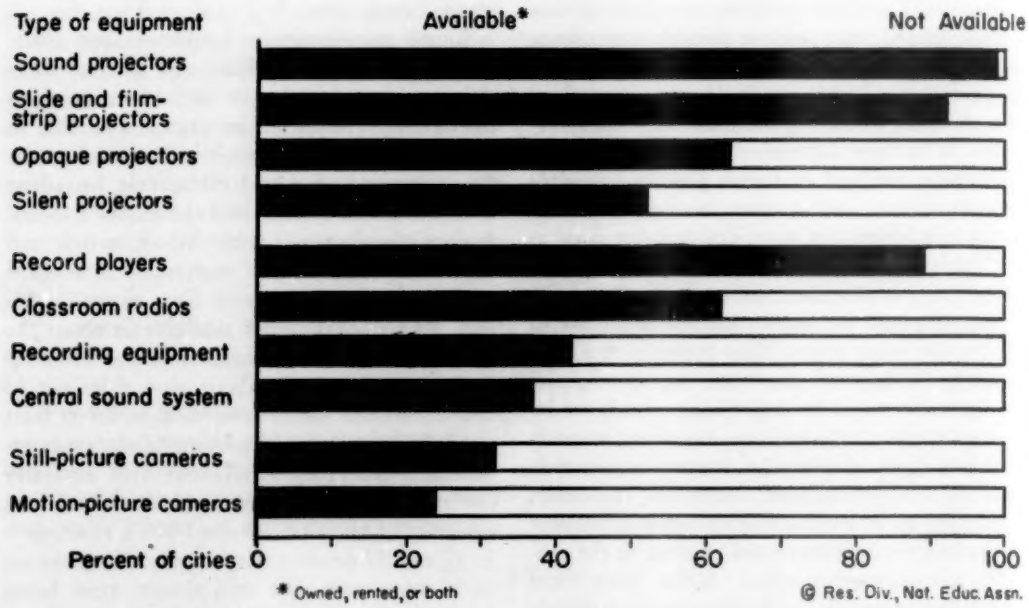
The major types of audio-visual equipment reported and the percent of cities in which each type of equipment is found are summarized graphically in Figure IV. This shows nothing about whether the supply is generous or meager, or how the different groups of cities differ with respect to what equipment they provide; merely the percent of all the cooperating cities in which at least one piece of each item of equipment is provided. Three groups of items are included: equipment for various types of projection, equipment for reproducing sound, and photographic equipment.

Sound motion-picture projectors are available in nearly all the cities, and slide or filmstrip projectors (either or both) in nine cities out of ten. Opaque projectors are available in nearly two-thirds of the cities, but motion-picture projectors designed exclusively for silent films are found in only half the school systems. Apparently the trend with respect to new and replacement projection equipment is toward projectors that show sound films as well as silent. Record players are available in about the same proportion of cities as slide and filmstrip projectors, that is, in about nine cities out of ten. Classroom radios are available, for at least some classrooms, in 62 percent of the cities reporting. Recording equipment and centrally controlled radio systems as yet are found in a minority of the cities covered by this survey—in 42 and 37 percent, respectively. Cameras are even more rare, the still-picture type being owned by less than a third of the cities and motion-picture cameras by only one city in four.

Differences among the various groups of cities with respect to the types of equipment they provide are shown by the percents in Tables 23 and 24. The first table in this pair indicates the percent of cities in each group that *own* the various major types of audio-visual equipment; the second, the percent of cities in which each item of equipment is *not available* even on a rental or loan basis. The variation of these "city-group" percents from the over-all percents illustrated in Figure IV can be readily observed from the tables themselves, in which column 2 in each case indicates the over-all situation. For most items of equipment, the larger cities and the school systems which have audio-visual departments are the groups most likely to provide them. Sometimes, the differences in percent of cities having a given item of equipment are relatively small and unimportant—as is the case for record players. For other items, the differences in percents are quite impressive as in the case of opaque projectors, recording equipment, and cameras of all types.

FIGURE IV

PERCENT OF CITIES IN WHICH VARIOUS TYPES OF AUDIO-VISUAL EQUIPMENT ARE AVAILABLE FOR USE IN AT LEAST PART OF THE SCHOOLS



Most of the cities included in this study own their audio-visual equipment, or own at least part of it. A few cities, however, rent or borrow all of the equipment of a given type that is used, and some rent or borrow certain amounts of equipment in addition to that which is owned by the school district. The ratio of cities which own various types of equipment to those renting or borrowing it is shown in Table 22. The proportion that rents or borrows equipment is quite small in every instance, ranging from less than half of 1 percent to 6 percent.

The amounts of equipment of each type available in the cooperating cities, including the average number of pieces owned in the various groups of cities, are shown in Table 25. If these data are representative, classroom radios and record players are more numerous than any other types of audio-visual equipment, followed by slide and filmstrip projectors and sound motion-picture projectors. Least common of all is photographic equipment, particularly motion-picture cameras. Wide differences will be noted in the average amounts of equipment owned by different groups of cities, both variations among the cities of different sizes and wide differences between most pairs of averages for cities with and without audio-visual departments.

Still another index with respect to the amount of equipment provided is the number

TABLE 22.—PERCENT OF CITIES THAT OWN AND RENT VARIOUS TYPES OF AUDIO-VISUAL EQUIPMENT

Equipment item	Number of cities reporting this item	Percent of cities	
		Owning	Renting or borrowing
1	2	3	4
Sound projectors	1,030	98%	6%
Slide and filmstrip projectors	1,030	92	2
Opaque projectors	1,029	63	*
Silent projectors	1,031	52	1
Record players	1,029	89	2
Classroom radios	1,016	60	3
Recording equipment	1,025	41	1
Central sound system	1,028	36	1
Still-picture cameras	1,025	30	3
Motion-picture cameras	1,028	24	2

* Less than half of 1 percent.

TABLE 23.—PERCENT OF CITIES, BY GROUPS, THAT OWN VARIOUS TYPES OF AUDIO-VISUAL EQUIPMENT

Equipment item	Percent of cities owning equipment							
	All groups	With audio-visual department	Without audio-visual department	Over 100,000	30,000-100,000	10,000-30,000	5,000-10,000	2,500-5,000
1	2	3	4	5	6	7	8	9
Sound projectors	98%	100%	97%	100%	100%	99%	98%	94%
Silent projectors	52	73	48	90	75	62	48	34
Slide and filmstrip projectors	92	98	90	100	97	94	94	84
Opaque projectors	63	88	59	93	83	73	61	47
Record players	89	91	89	81	91	92	91	87
Recording equipment	41	67	36	69	65	47	37	28
Central sound system	36	61	32	66	56	43	33	23
Classroom radios	60	71	59	56	67	67	61	55
Motion-picture cameras	24	50	20	72	41	26	18	15
Still-picture cameras	30	57	26	65	44	38	25	20

TABLE 24.—PERCENT OF CITIES NOT PROVIDING VARIOUS TYPES OF AUDIO-VISUAL EQUIPMENT

Equipment item	Percent of cities that neither own nor rent the equipment							
	All groups	With audio-visual department	Without audio-visual department	Over 100,000	30,000-100,000	10,000-30,000	5,000-10,000	2,500-5,000
1	2	3	4	5	6	7	8	9
Sound projectors	1%	0%	2%	0%	0%	1%	1%	3%
Silent projectors	48	27	52	8	25	38	52	65
Slide and filmstrip projectors	8	2	9	0	3	6	6	14
Opaque projectors	37	12	41	7	17	27	38	53
Record players	11	9	11	19	9	8	9	13
Recording equipment	58	33	63	29	35	53	63	71
Central sound system	63	39	68	34	44	57	67	77
Classroom radios	38	29	41	44	33	33	38	44
Motion-picture cameras	74	49	78	26	59	71	82	83
Still-picture cameras	68	41	72	33	56	59	73	77

TABLE 25.—AVERAGE AMOUNTS OF EQUIPMENT PER CITY OWNED IN THE VARIOUS TYPES OF SCHOOL SYSTEMS

Equipment item	Total pieces owned by all cities reporting[a]	Total pieces rented by all cities reporting	Average number of pieces[b] owned per city: various groups of cities							
			With audio-visual department	Without audio-visual department	Over 100,000	30,000-100,000	10,000-30,000	5,000-10,000	2,500-5,000	All groups
1	2	3	4	5	6	7	8	9	10	11
Slide and filmstrip projectors	7,725	31	31	3	74	12	4	2	2	8
Sound projectors	5,582	206	20	3	46	10	3	2	1	5
Silent projectors	4,098	17	19	1	48	5	2	1	0.4	4
Opaque projectors	2,663	6	10	1	23	5	2	1	1	3
Classroom radios	8,384	304	32	4	78	13	5	4	2	8
Record players	7,944	32	26	4	56	16	6	4	2	8
Central sound system	823	18	2	1	5	2	1	0.4	0.3	1
Recording equipment	646	18	2	1	3	1	1	0.4	0.3	1
Still-picture cameras	637	56	2	0.4	3	1	1	0.3	0.3	1
Motion-picture cameras	348	35	1	0.2	2	0.5	0.3	0.2	0.2	0.3

[a] The following numbers of cities reported not the total supply of audio-visual equipment in the entire city but only that available thru the central audio-visual department: 5 cities over 100,000; 6 cities 30,000-100,000; 7 cities 10,000-30,000; 5 cities 5,000-10,000; 3 cities 2,500-5,000; or a total of 26 cities.

[b] These averages are given to the nearest whole numeral except when the average is lower than 0.5.

of pieces of equipment owned per 10,000 pupils enrolled in school. Reduced to that basis, the average amounts of equipment provided in the different groups of cities are shown in Table 26. Again, the four items that stand out prominently are classroom radios, record players, slide and filmstrip projectors, and sound projectors.

In interpreting these averages, as well as the averages per city which appear in the preceding table, two facts should be carried in mind: (1) the averages are based on equipment *owned*—not owned and rented; and (2) the amounts reported, for reasons already given, tend to understate to some extent the total amount of equipment used in the cities here represented. On the other hand, these averages may be much too high to represent accurately all the city-school systems of the nation, since the supply of equipment is probably quite limited in most of the cities which did not return the questionnaire. For these reasons, and others, the relationships among the averages in Tables 25 and 26 probably are more significant than the actual size of the various averages reported. Only a careful analysis of the use program in a given school system could show whether or not these amounts of audio-visual equipment are sufficient for local needs.

An interesting contrast stands out between the two sets of averages for cities of various sizes. Namely, altho the average number of pieces owned tends to grow larger with size of city, the average number of pieces owned per 10,000 pupils shows exactly the opposite trend. The practical implication of this fact, from the standpoint of administering an audio-visual program, is that a given unit of equipment usually will serve relatively fewer pupils in small school systems than the same equipment in large city systems. Cost studies are needed of the extent to which longer life, and hence lower depreciation costs, will offset this higher per pupil cost of equipment in the smaller and medium sized cities.

Audio-Visual Materials

In most of the tables already presented attention is directed to the number of cities reporting on whatever item is being considered—sometimes, conversely, to the number of cities not reporting. The differences between the number reporting and the total number of cities in the various groups will be especially noticeable in the reports which follow on materials used for audio-visual instruction. Time after time certain respondents would report, for example, that the school system has a considerable quantity of such-and-such materials but there is no accurate record of just how much. In summarizing the data on materials (the same as for all other items of the questionnaire) such reports have been classified as "blanks," to distinguish them from those reporting "none." Altho the numbers reporting for different types of materials do vary considerably from one item to another, the averages, which take into account these variations, should be comparable to the extent that the sample in any given instance is sufficiently large and representative of the group.

TABLE 26.—AVERAGE AMOUNTS OF EQUIPMENT OWNED PER 10,000 PUPILS ENROLLED IN VARIOUS GROUPS OF CITIES

Equipment item	Average number of pieces owned per 10,000 pupils enrolled in school							
	All groups	With audio-visual department	Without audio-visual department	Over 100,000	30,000-100,000	10,000-30,000	5,000-10,000	2,500-5,000
1	2	3	4	5	6	7	8	9
Slide and filmstrip projectors	13.37	13.23	13.63	12.13	14.42	14.37	16.08	18.13
Sound projectors	9.60	8.29	12.13	7.57	11.86	12.01	13.43	15.03
Silent projectors	7.01	8.13	4.90	8.01	6.03	5.44	4.75	4.98
Opaque projectors	4.61	4.10	5.58	3.70	5.59	6.31	6.01	6.39
Classroom radios	17.65	17.53	17.80	17.00	15.65	17.46	23.09	21.44
Record players	13.93	11.14	19.05	9.38	18.60	20.01	23.32	24.21
Central sound system	1.43	1.02	2.20	.71	1.99	2.37	2.95	3.04
Recording equipment	1.13	.67	1.99	.51	1.31	2.02	2.81	3.31
Still-picture cameras	1.35	.97	1.86	.76	1.27	2.31	2.24	2.94
Motion-picture cameras	.71	.53	.97	.45	.67	1.02	1.33	1.77

Motion-picture films—Sound films are owned by 33 to 100 percent of all the various groups of cities that have been used for purposes of analysis and comparison in the present study. Smaller cities, even more generally than the larger ones, also rent sound films, with the result that such films are used—at least to some extent—in 92 to 100 percent of all the various city groups. These facts, together with comparable percents pertaining to silent films and with totals and averages for both sound and silent films, are set forth in Table 27.

The average numbers of sound and silent films per city, in each group of cities—both the average number owned and number rented—are set forth graphically in Figure V. The average number of sound films owned per city ranges from 4 to 326 for cities of different sizes and the average number rented from 68 to 208. Corresponding averages per city for silent films owned are 2 to 245 and for silent films rented from 8 to 75. Almost as impressive are the differences shown between the averages for cities with, and without, special audio-visual departments.

Comparison of the averages just cited with the average number of films available per 10,000 pupils, whether owned or rented, reemphasizes a point already mentioned in connection with audio-visual equipment. Namely, when computations are based on the number of pupils to be served, the supply of audio-visual materials now available in city systems is relatively higher *per pupil* in the smaller school systems. (See columns 8 and 9 in Table 27.)

Except in cities of the largest population group, the number of sound films rented or borrowed greatly exceeds the number owned—in one instance, in the ratio of sixteen to one. For silent films on the contrary, the number rented

FIGURE V

AVERAGE NUMBER OF MOTION-PICTURE FILMS PER CITY AVAILABLE DURING 1945-46

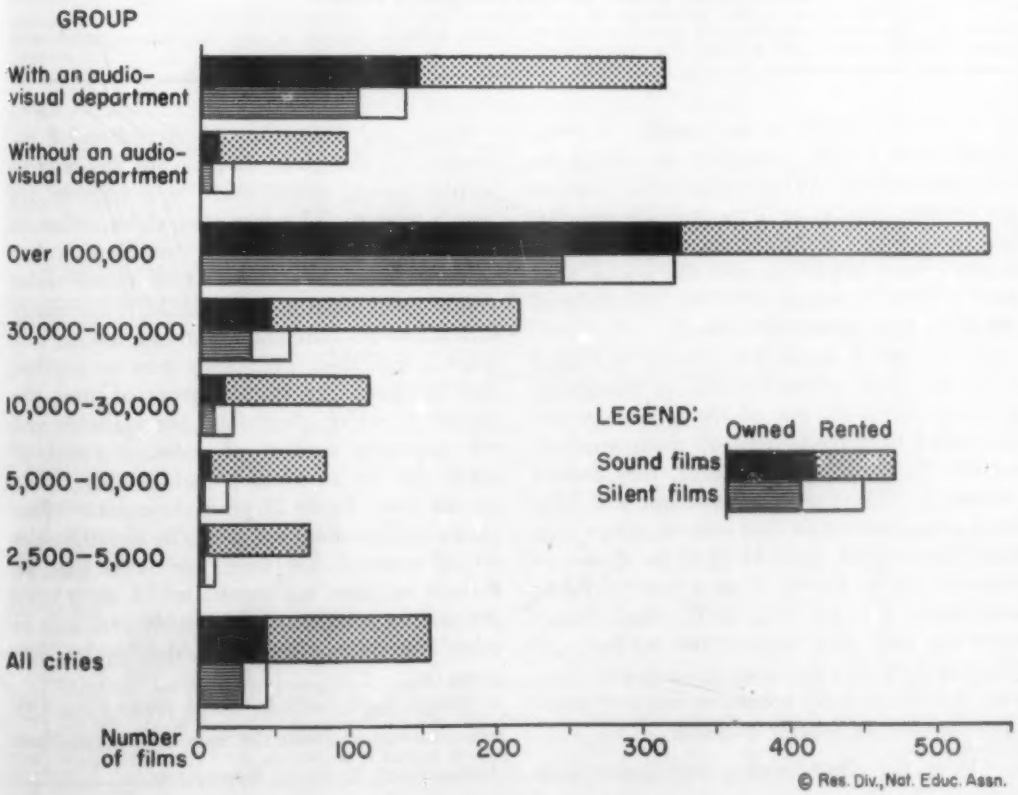


TABLE 27.—MOTION-PICTURE FILMS AVAILABLE IN CITY-SCHOOL SYSTEMS, 1945-46

Group	Number reporting on film supply[a]	Total number of films			Average number of films per city in group			Average number of films available per 10,000 pupils[a]	Percent of cities in which films are:			
		Owned	Rented (1945-46)	Both	Owned	Rented (1945-46)	Both		Owned	Rented or borrowed	Available[a]	Not available[a]
1	2	3	4	5	6	7	8	9	10	11	12	13
Sound films												
Having an audio-visual department.	142	20,967	23,830	44,797	148	168	316	120	82%	60%	100%	0%
Having no audio-visual department.	414	5,109	35,738	40,847	12	86	98	346	46	68	94	6
Over 100,000	57	18,560	11,836	30,396	326	208	534	88	100%	41%	100%	0%
30,000–100,000	89	4,038	15,177	19,215	45	171	216	260	76	55	97	3
10,000–30,000	129	1,922	12,396	14,318	15	96	111	387	57	69	97	3
5,000–10,000	125	855	9,536	10,391	7	76	83	550	45	70	96	4
2,500–5,000	156	671	10,623	11,294	4	68	72	823	33	74	92	8
All groups	556	26,076	59,568	85,644	47	107	154	175	55%	66%	95%	5%
Silent films												
Having an audio-visual department.	156	16,355	5,270	21,625	105	34	139	57	66%	42%	83%	17%
Having no audio-visual department.	547	3,547	7,830	11,377	7	14	21	79	32	32	56	44
Over 100,000	59	14,476	4,445	18,921	245	75	320	54	94%	26%	97%	3%
30,000–100,000	93	3,104	2,422	5,526	33	26	59	71	68	35	83	17
10,000–30,000	169	1,465	2,087	3,552	9	12	21	73	42	34	60	40
5,000–10,000	165	424	2,394	2,818	3	14	17	113	26	39	55	45
2,500–5,000	217	433	1,752	2,185	2	8	10	114	21	34	49	51
All groups	703	19,902	13,100	33,002	28	19	47	63	39%	35%	62%	38%

[a] "Available" includes films both owned and rented. The averages in column 9 are derived from the combined enrolments of the school systems shown in column 2 and the total number of films shown in column 5.

[a] The following numbers of cities reported not the total supply of films for the entire system but only those available thru the central audio-visual department: 10 cities over 100,000; 4 cities 30,000 to 100,000; 5 cities 10,000 to 30,000; 4 cities 5,000 to 10,000; 2 cities 2,500 to 5,000; or a total of 25 cities.

or borrowed usually is not greatly in excess of the small number owned by the school districts themselves. When compared in terms of the average number of films available per city, and also in terms of the average number of films available per 10,000 pupils, the sound films used in schools during 1945-46 outnumbered the silent films about three to one.

A fact which stands out clearly in Figure V is that cities below 100,000 in population purchase relatively few of the films they use. One-third to three-fourths of them purchase certain films; but, by and large, they depend on rentals. This practice is consistent with Mahan's recommendation that cities purchase only those films which probably will be shown at least twelve to fifteen times a year.[1] Mahan also points out that if a small school system owns its own film library, the teachers are likely to show the same small collection of films, over and over, simply because newer and better films are not so readily available.

Slides and filmstrips—A comprehensive inventory of the glass slides available in city-school systems would itself be a sizeable research project. The fact that slides differ in size and type and the further complication that sometimes they are counted as individual slides and at other times as "sets" make it extremely difficult to get comparable information on just what is available. This study goes no further than to summarize, for each group of cities, the percent in which glass slides are available and the aggregate number of slides, and sets of slides, for the cities which could readily report on the item. Table 28 gives these data. More than a million slides are owned by the 737 cities which reported, but when one notes that 80 percent of these are owned by 53 cities over 100,000 in population, the supply available in other city systems seems considerably less impressive.

Filmstrips, as will be noted from Table 29, are available in about the same percent of cities

[1] Mahan, B. E. "Basic Factors in Audio-Visual Instruction." *Midland Schools* 60: 176-77; February 1946.

as are glass slides. Over 100,000 filmstrips are owned by the 841 cities which reported on this item, or an average of 125 filmstrips per city. Again, the largest cities have the largest supply of materials, the averages ranging from 54 to 779; but in proportion to enrolments (as was true for motion-picture films) the supply is higher per 10,000 pupils in the smaller cities than in the larger ones.

Recordings—From 55 to 96 percent of the cities reporting on recordings have a supply of school-owned records or transcriptions. Nevertheless, as the percents in column 6 of Table 30 reveal, recordings are not available in one-third to one-half of the cities below 30,000 in population, particularly in cities not having special audio-visual departments. The average number of recordings owned per city falls between 51 and 666 for the various groups of cities and the average number per 10,000 pupils between 137 and 597, the latter in inverse proportion to city size.

Other materials—Data sufficient for a general overview of four additional types of audio-visual materials are presented in Table 31. The first three items—pictures, charts, posters, and so on; maps and globes; and models, objects, and specimens—are available in some quantity in 90 to 100 percent of the schools reporting on these items. Dioramas or other formally ar-

TABLE 28.—EXTENT TO WHICH GLASS SLIDES ARE PROVIDED IN CITY-SCHOOL SYSTEMS

Group of cities	Number of cities reporting item[a]	Percent of cities in which slides are:				Slides owned		Slides rented or borrowed, 1945-46	
		Owned	Rented or borrowed	Available*	Not available*	Individual slides	Number of sets	Individual slides	Number of sets
1	2	3	4	5	6	7	8	9	10
With audio-visual department	149	96%	21%	97%	3%	886,774	16,469	1,610	1,037
Without audio-visual department	588	85	16	89	11	149,117	8,585	6,510	1,531
Over 100,000	53	100%	13%	100%	0%	830,450	15,559	485	343
30,000–100,000	87	93	23	98	2	80,120	4,393	3,910	344
10,000–30,000	164	90	18	93	7	4[illegible],145	1,631	1,222	390
5,000–10,000	210	83	15	86	14	44,398	1,867	1,248	1,249
2,500–5,000	223	83	17	89	11	31,778	1,604	1,255	242
All cities reporting	737	87%	17%	91%	9%	1,035,891	25,054	8,120	2,568

* "Available" includes slides that are both owned and rented.

[a] The following numbers of cities reported not the total supply of glass slides for the entire system but only those available thru the central audio-visual department: 9 cities over 100,000; 5 cities 30,000 to 100,000; 7 cities 10,000 to 30,000; 5 cities 5,000 to 10,000; 2 cities 2,500 to 5,000; or a total of 28 cities.

TABLE 29.—FILMSTRIPS AVAILABLE IN CITY-SCHOOL SYSTEMS, 1945-46

Group of cities	Number of cities reporting item[a]	Percent of cities in which filmstrips are:				Number of filmstrips		Average number owned per city	Average number available per 10,000 pupils*
		Owned	Rented or borrowed	Available*	Not available*	Owned	Rented or borrowed		
1	2	3	4	5	6	7	8	9	10
With audio-visual department	151	97%	9%	97%	3%	52,723	649	349	147
Without audio-visual department	690	86	11	88	12	52,258	3,455	76	346
Over 100,000	51	100%	0%	100%	0%	39,733	719	779	122
30,000–100,000	94	93	11	94	6	16,266	732	173	217
10,000–30,000	189	92	8	92	8	18,941	618	100	361
5,000–10,000	237	88	12	90	10	15,368	1,245	65	463
2,500–5,000	270	83	13	85	15	14,673	790	54	651
All cities reporting	841	89%	10%	90%	10%	104,981	4,104	125	208

* "Available" includes filmstrips both owned and rented. The averages in column 10 are derived from the combined enrolments of the school systems shown in column 2 and the total number of filmstrips shown in columns 7 and 8.

[a] The following numbers of cities reported not the total supply of filmstrips for the entire system but only those available thru the central audio-visual department: 9 cities over 100,000; 4 cities 30,000 to 100,000; 7 cities 10,000 to 30,000; 4 cities 5,000 to 10,000; 2 cities 2,500 to 5,000; or a total of 26 cities.

ranged exhibits are reported from only 61 percent of the cities which supplied information on this point. In view of the composite character of the items and incompleteness of these data, the averages in columns 5 to 9 have little significance aside from their relationships, one with another. They do reflect, in a general way, the relation of city size to the amounts of these instructional materials provided. Quite probably, however, they are not accurate averages for the various groups of cities for reasons that have been given, tending to understate the supply for the participating cities and to overstate the amounts generally available if all cities could have been included.

The Outlook for Equipment and Materials

The amounts of audio-visual equipment and materials which are reported here fall far short of the quantities recommended by the leaders in audio-visual education.[2] The fact that all such

[2] Among the widely quoted standards are those recommended in *A Measure for Audio-Visual Programs in Schools* by the Committee on Motion Pictures in Education of the American Council on Education. Washington, D. C.: the Council, 1944.

TABLE 30.—RECORDINGS PROVIDED IN CITY-SCHOOL SYSTEMS, 1945-46

Group of cities	Number of cities reporting item[a]	Percent of cities in which recordings are:				Number of recordings		Average number owned per city	Average number available per 10,000 pupils[c]
		Owned	Rented or borrowed	Available[b]	Not available[b]	Owned	Rented or borrowed		
1	2	3	4	5	6	7	8	9	10
With audio-visual department	138	85%	14%	89%	11%	47,974	289	348	189
Without audio-visual department	754	57	6	58	42	65,388	1,635	87	431
Over 100,000	47	96%	6%	96%	4%	31,280	103	666	137
30,000–100,000	74	95	11	96	4	33,389	153	451	545
10,000–30,000	172	66	8	66	34	15,144	722	88	322
5,000–10,000	286	50	8	54	46	17,591	482	62	417
2,500–5,000	313	55	5	57	43	15,958	464	51	597
All cities reporting	892	61%	7%	63%	37%	113,362	1,924	127	281

[b] "Available" includes recordings both owned and rented. The averages in column 10 are derived from the combined enrolments of the school systems shown in column 2 and the total number of recordings shown in columns 7 and 8.

[a] The following numbers of cities reported not the total supply of recordings for the entire system but only those available thru the central audio-visual department: 8 cities over 100,000; 3 cities 30,000 to 100,000; 7 cities 10,000 to 30,000; 5 cities 5,000 to 10,000; 2 cities 2,500 to 5,000; or a total of 25 cities. Several of the larger cities indicated that the figures given did not include recordings in certain specified departments, for example, the music department.

TABLE 31.—MISCELLANEOUS ITEMS FOR AUDIO-VISUAL INSTRUCTION AVAILABLE IN CITY-SCHOOL SYSTEMS, 1945-46

Item	Number of cities reporting on item	Percent owning in some quantity	Aggregate number reported owned	Average number owned per city[b]				
				Over 100,000	30,000–100,000	10,000–30,000	5,000–10,000	2,500–5,000
1	2	3	4	5	6	7	8	9
Flat pictures, charts, posters, etc.	553[a]	95%	992,198	10,759	2,703	3,235	423	306
Maps and globes	738[b]	98%	136,550	2,002	335	166	89	61
Models, objects, specimens, etc.	545[c]	93%	519,053	16,806	266	162	86	78
Exhibits, dioramas, etc.	441[d]	61%	12,788	184	78	20	8	6

[b] "Available" includes items both owned and rented.

[a] Twenty cities reported not the total supply of flat pictures, charts, posters, etc., but only those available thru the central audio-visual department.

[b] Eighteen cities reported not the total supply of maps and globes but only those available thru the central audio-visual department.

[c] Seventeen cities reported not the total supply of models, objects, specimens, etc., but only those available thru the central audio-visual department.

[d] Fifteen cities reported not the total supply of exhibits, dioramas, etc., but only those available thru the central audio-visual department.

equipment and materials were produced almost exclusively for the armed forces during the war years has meant that, for about five years past, school inventories of audio-visual aids have actually declined. In the case of projection equipment and instructional films of all kinds this has been particularly true. Hence, one of the essential steps toward a more extensive and more effective use program must be an increase in the supply of suitable equipment and materials. However, important progress is now being achieved in removing this accumulated deficit. Several new producing agencies recently have appeared, announcing that they will devote themselves exclusively to the development of educational materials, and it is predicted that no less than 50,000 16 mm. projectors will be manufactured during the present year,[8] a substantial percent of which will be purchased by schools and colleges. These are hopeful signs at a time when more and better audio-visual equipment and materials constitute, for some communities, the most essential next step in an effective use program.

[8] *See and Hear*, April 1946, p. 8.

V. Expenditures for Audio-Visual Education

Audio-visual instruction, the same as other phases of the school program, thrives or stagnates according to the amount of money that is put into it. Many places have kept expenditures for audio-visual materials to the minimum thus far, arguing that these are non-essentials—"extras" that are nice if one can afford them but bric-a-brac that are not fundamental in teaching and learning. Other school systems have reached the conclusion that audio-visual materials are just as basic in effective learning as textbooks and other instructional supplies that long since have been considered essential. Where the latter is true, the annual expenditure for the audio-visual program is looked upon not as a luxury item but as one of the bread-and-butter portions of the school budget. Until it is so regarded no school system is likely to have a truly functional program of audio-visual education.

Audio-Visual Expenditures, 1945-46

The 1945-46 expenditures on audio-visual education were reported in this study by 1011 of the participating cities. The aggregate amount of these expenditures is $2,027,258, or an average of $2,005 per city. Distributed on a per pupil basis, the 1945-46 expenditure on audio-visual education for all the cities reporting is 35 cents per pupil.

Table 32 breaks down the aggregate expenditures for the various groups of cities, giving the number of cities in each group which reported their expenditures and the average expenditure per city for each of the groups. It will be noted that these averages per city decrease with city size.

TABLE 32.—AGGREGATE AND AVERAGE EXPENDITURES FOR AUDIO-VISUAL EDUCATION IN 1945-46 FOR 1011 CITIES

Group	Number of cities reporting	Aggregate expenditure	Average expenditure per city
1	2	3	4
Having an audio-visual department:	162	$1,409,751	$ 8,702
Over 100,000	46	1,023,355	22,247
30,000–100,000	40	206,668	5,167
10,000–30,000	36	115,755	3,215
5,000–10,000	25	39,186	1,567
2,500–5,000	15	24,787	1,652
Having no audio-visual department:	849	$ 617,507	$ 727
Over 100,000	12	29,627	2,469
30,000–100,000	70	159,078	2,197
10,000–30,000	188	161,577	859
5,000–10,000	261	148,400	569
2,500–5,000	318	118,845	374
All cities reporting their audio-visual expenditures	1,011	$2,027,258	$ 2,005
Over 100,000	58	1,052,982	18,155
30,000–100,000	110	365,746	3,287
10,000–30,000	224	277,312	1,238
5,000–10,000	286	187,586	656
2,500–5,000	333	143,632	431

Distribution of the 1945-46 expenditures on a per pupil basis for the various groups of cities is shown in Figure VI. In cities with special audio-visual departments they range from 32 cents in cities of the largest population group to $1.68 per pupil in the smallest cities. In school systems without audio-visual centers the per pupil averages, for the most part, are only one-fourth to one-third as great, ranging from 11 to 43 cents. For all the cities included in this report the average expenditure per pupil in each population group falls between 30 and 50 cents, the average for the entire group being 35 cents as has been stated already. Note that the per pupil expenditures run exactly opposite to city size; in other words, the larger the city the smaller is its per pupil outlay for audio-visual education. This is true in spite of the much higher total outlay per city in the larger school systems which was pointed out in connection with Table 32.

Another method of analyzing the cost figures is followed in Table 33. After computing the per pupil expenditures for individual cities, the results were then compiled in the form of frequency distributions, for all the cities and for cities with and without special audio-visual departments. The median expenditure for the entire group, 33 cents, is substantially the same as the average already cited. A wide difference in median expenditures for cities with and without audio-visual departments would be anticipated from the differences shown in Figure VI,

TABLE 33.—FREQUENCY DISTRIBUTION OF THE PER PUPIL EXPENDITURES OF CITY-SCHOOL SYSTEMS, 1945-46

Expenditure level per pupil	Number of cities		
	Entire group	Cities with audio-visual departments	Cities without audio-visual departments
1	2	3	4
$2.00 or more	19	9	10
1.75–1.99	8	3	5
1.50–1.74	11	4	7
1.25–1.49	30	9	21
1.00–1.24	47	19	28
.75–.99	60	13	47
.50–.74	132	26	106
.25–.49	286	48	238
.01–.24	368	28	340
0	50	3	47
Total	1,011	162	849
Median per pupil expenditure	33¢	52¢	29¢

but here the size of that difference is more definitely revealed. Probably of greater interest than the medians, however, are the range of the distribution and the manner in which the cities are grouped along the scale. Altho only a knowledge of local conditions and needs can provide the sound basis for audio-visual expenditures in a given community, comparison of a city's audio-visual expenditures with such a scale as this surely is quite revealing. If the local figure seems unduly low in terms of practice elsewhere, perhaps the audio-visual program needs careful reappraisal with a view to possible expansion. If local expenditures seem to be running quite high, do they reflect merely the high initial cost of a program which is just getting under way? Or, equally possible, are they fully justified by the extent and superior quality of a well-established audio-visual program?

What the Audio-Visual Dollar Buys

In reporting their 1945-46 expenditures for audio-visual education, respondents gave as fully as possible an item distribution of the amounts paid out. The categories used were: salaries, equipment, materials purchased, materials rented, overhead expense, and other expenditures. Figure VII is a summary of this item analysis for each group of cities as well as for all the cities included in the study.

In school systems with audio-visual departments approximately half of the funds budgeted for audio-visual instruction are used for staff salaries. In cities without audio-visual centers, however, about half of the audio-visual budget is used for equipment. In both instances the amounts spent for the purchase of materials—films, recordings, slides, etc.—account for about 20 percent of the total audio-visual expenditures. However, since the cities with special departments have much larger total outlays (including substantial sums for staff salaries), this means relatively larger *actual* outlays for materials in the cities with audio-visual centers, even when the *percent* devoted to materials is the same.

Again, let it be clearly understood that the distribution of funds as shown in Figure VII may, or may not, represent a desirable allocation. As a summary of practice it affords only a tentative standard of comparison, useful in the preliminary evaluation of a city's own prac-

FIGURE VI

PER PUPIL EXPENDITURES ON AUDIO-VISUAL EDUCATION, 1945-46, IN VARIOUS GROUPS OF CITY-SCHOOL SYSTEMS

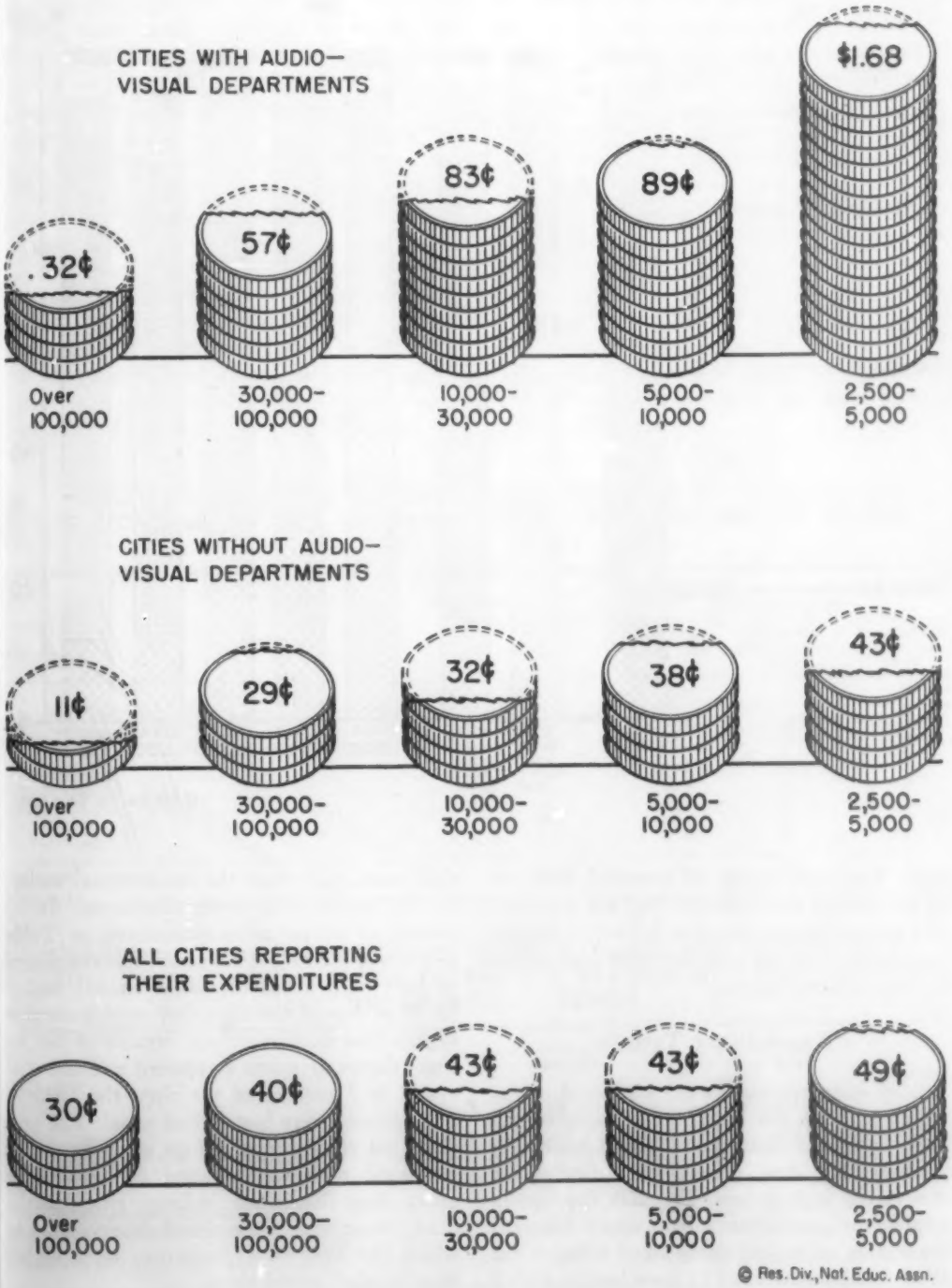
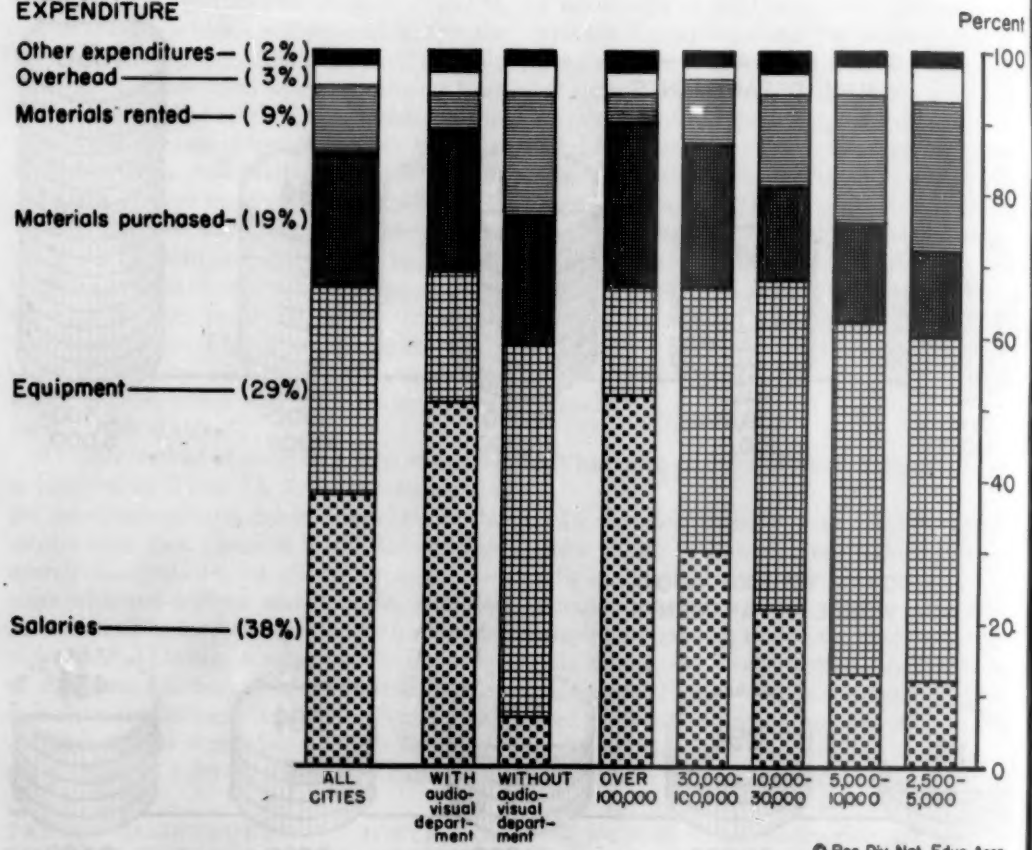


FIGURE VII

ALLOCATIONS OF AUDIO-VISUAL EXPENDITURES TO VARIOUS SERVICES AND FUNCTIONS



tices. Variations should be expected, however, as the services and functions that are supported in a given program exceed or fall below the corresponding services and functions represented in these budget figures.

Expenditure Trends

The question may well be raised as to whether or not the 1945-46 expenditures that have been summarized are really typical or whether, for some reason, these figures are abnormally high or low. To check these possibilities, the questionnaire item which followed the section on expenditures asked whether the 1945-46 figures were: (1) considerably higher than usual, (2) about the usual annual outlay, or (3) considerably lower than usual. In 55 percent of all the cities represented, as Table 34 reveals, the 1945-46 expenditures are alleged to have been about the usual annual outlay. In 38 percent of the cities they were somewhat higher than usual—perhaps because of the recent releases of scarce equipment and material —and in 7 percent of the cities the 1945-46 expenditures were lower than usual. The percents for the various groups of cities, when compared with the percents for the entire group, show that it was the larger cities, particularly those with audio-visual departments, in which the 1945-46 expenditures were higher than in other recent years.

Using again the *per pupil expenditures for individual cities,* frequency distributions were set up and median expenditures were computed for the three groups of cities in which the 1945-46 expenditure figures are said to be higher than usual, about the usual outlay, and lower than usual. Table 35 compares these medians with the median expenditures already given in Table 33. Generally speaking, the median per pupil expenditure for the higher-than-usual group is about 20 cents more than the 1945-46 expenditure for all the cities, and, in cities of the about-as-usual group, the medians are about 10 cents lower than for all the cities included in the study.

As a final check on expenditure trends, respondents were asked to report their estimated 1946-47 expenditures for audio-visual education, using their budget plans as of May 1946 as the basis for such estimates. Reports on this item were submitted for 873 cities, showing an anticipated increase in 1946-47 over the amount spent in 1945-46 of approximately 9 percent. In other words, even tho the 1945-46 expenditures were somewhat higher than in other recent years in a substantial percent of city-school systems, the corresponding outlay in 1946-47 is going to be higher still. The pattern of expected increase or decrease as reported for the various groups of cities is illustrated graphically in Figure VIII. The aggregate 1945-46 expenditure for each group of cities is represented in this chart as 100 percent. Then, using the corresponding aggregate expenditure for the same cities, as estimated for 1946-47, the percent of increase or decrease is shown. In cities above 10,000 in population, particularly in cities with audio-visual departments, further expansion of the audio-visual program during 1946-47 is indicated. For the 873 cities the total outlay in 1946-47 is estimated at $1,787,125 as compared with actual expenditures in 1945-46 in the same cities of $1,641,980.

TABLE 34.—RELATION OF 1945-46 EXPENDITURES ON AUDIO-VISUAL EDUCATION TO THE CORRESPONDING EXPENDITURES IN OTHER RECENT YEARS

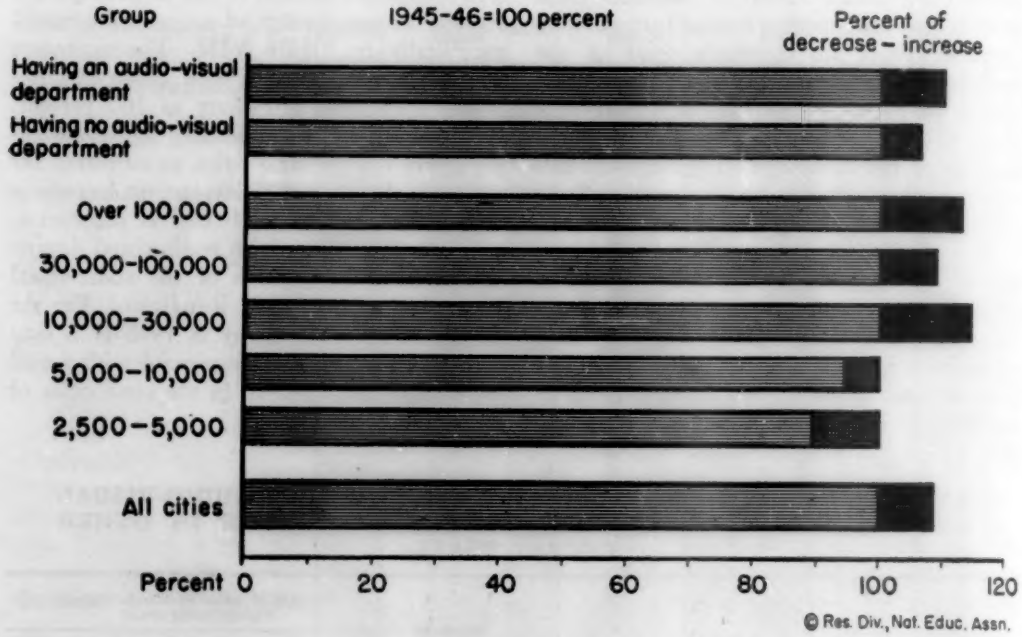
Group	Number of cities	Percent of cities in which 1945-46 expenditures were:		
		Considerably higher than usual	About the usual annual outlay	Considerably lower than usual
1	2	3	4	5
With audio-visual department	162	56%	40%	4%
Without audio-visual department	849	35	57	8
Over 100,000	58	53%	42%	5%
30,000–100,000	110	44	47	9
10,000–30,000	224	42	52	6
5,000–10,000	286	37	56	7
2,500–5,000	333	32	60	8
All cities reporting	1,011	38%	55%	7%

TABLE 35.—MEDIAN PER PUPIL EXPENDITURES FOR AUDIO-VISUAL EDUCATION, 1945-46, WHEN CITIES ARE CLASSIFIED AS TO RECENT EXPENDITURE TRENDS

Group	Median expenditure per pupil in cities whose 1945-46 expenditures for audio-visual education were:			All cities included in the study
	Considerably higher than usual	About the usual annual outlay	Considerably lower than usual	
1	2	3	4	5
With audio-visual department	$0.69	$0.43	$0.34	$0.52
Without audio-visual department	.52	.21	.14	.29
Both groups	.55	.23	.15	.33

FIGURE VIII

PERCENT OF INCREASE OR DECREASE IN 1946–47 EXPENDITURES FOR AUDIO-VISUAL EDUCATION AS COMPARED WITH THE AMOUNTS SPENT IN 1945–46



VI. Improving the Audio-Visual Program

Knowledge of what is being done in other school systems with respect to audio-visual education becomes important only as it leads to the improvement of one's own practices. What new directions, therefore, are suggested by the present study? What needed expansions, refinements, and new emphases seem to be implied? What next steps are indicated as those that most school systems should prepare themselves to take? To questions such as these the final section of this bulletin is addressed.

Obstacles To Be Overcome

Some of the hindrances to optimum use of audio-visual materials could be readily identified from the data presented in sections II to V of this report. However, from a direct inquiry to those who cooperated in this study comes a synthesis of opinion that points with remarkable accuracy to the chief implications of this survey.

The respondents were asked to enumerate any major barriers which have kept their own audio-visual programs from developing as rapidly as they should, or that have kept them from becoming as well balanced and serviceable as might otherwise have been possible. These opinions are summarized, for all the cities and for cities in each population group, in Table 36.

Teachers' lack of interest and skill—The obstacle to success named more frequently than any other was disinterest on the part of classroom teachers or inability on their part to select and use audio-visual materials in an effective way. If this is true—and the conclusion finds support in most of the recent literature on the subject—a tremendous program of teacher education is indicated which will include both specialized instruction in the colleges of teacher education and locally arranged programs for on-the-job training.

The latter cannot be ignored, since the professional education of the great majority of teachers now working in the public schools included virtually no instruction on the effective use of the newer multisensory aids. Those who use audio-visual materials not only must have certain technical information and skills but, more particularly, must know such things as: the types of audio-visual materials that are available; the places from which each type can be obtained; the aspects of learning to which each type can contribute; the manner in which the material should be presented; and the tests and follow-up procedures which ought to be employed. Teachers should be helped to cultivate, too, a certain degree of initiative and resourcefulness in developing various kinds of sensory materials that are not yet available to them from commercial sources. In many of the larger cities, especially those having special departments of audio-visual education, some kind of in-service training is quite general. In the

TABLE 36.—MAJOR BARRIERS TO THE WIDER AND MORE EFFECTIVE USE OF AUDIO-VISUAL MATERIALS IN CITY-SCHOOL SYSTEMS

Major barriers	Total frequency of mention	Frequency of mention in cities of different sizes				
		Over 100,000	30,000-100,000	10,000-30,000	5,000-10,000	2,500-5,000
1	2	3	4	5	6	7
Teachers not interested—not prepared to make effective use of audio-visual aids	318	17	34	66	91	110
No specially trained director	286	11	25	80	77	93
Essential equipment not yet purchased	267	22	28	72	64	81
Buildings need extensive remodeling to adapt them to audio-visual education	263	16	24	57	74	92
Funds not available	259	22	22	60	73	82
Lack of a central audio-visual agency	239	10	36	56	65	72
No convenient source for renting or borrowing audio-visual materials	94	3	5	30	24	32
Indifference of the board of education	54	5	7	10	16	16
Administrative opposition or indifference	30	3	7	5	6	9
Number of school systems naming one or more of these barriers	751	44	74	174	210	249

smaller cities, where qualified directors of audio-visual education are not generally employed, relatively little attention is being given to this problem. Probably the initial step toward a more effective program in many communities should be a well-planned program of in-service education for teachers, which would awaken their interest in audio-visual procedures and create on their part a genuine and insistent demand for suitable multisensory materials.

Lack of special leadership—Second in the list of obstacles in Table 36 is the absence of a specially trained director of audio-visual education with time and facilities to make his leadership really effective. When it is recalled that such leadership is provided in 47 of the 60 largest cities, and that there are at least part-time directors in a majority of the cooperating cities between 30,000 and 100,000 in population, the significance of this item becomes apparent. Almost without exception the need for a competent director is considered a major barrier to an effective program in the cities beyond 30,000 in population which have not already provided for such leadership, and in nearly half the cities 10,000 to 30,000 in population the same acute need is reported.

Closely related to this item in purpose, and mentioned usually by the same respondents, is the need for a central audio-visual agency. Altho standing sixth in the list by frequency of mention, this clearly belongs in the group of major hindrances to effective audio-visual instruction. Teachers need both the technical and professional help of the director of such a department and the actual service functions which only such a center can provide.

Equipment needs—Third in frequency of mention as a barrier to effective programs is a shortage of essential equipment. The amounts of equipment reported in section IV of this bulletin, therefore, represent something less than an adequate supply. Equipment shortages, particularly in the field of projection equipment, have been due to some extent to wartime shortages. However, a considerable degree of blame must be attached to budget allotments that have been too small to meet the actual needs for audio-visual equipment.

School building problems—The fourth hindrance to good work, by frequency of mention, is school buildings that make it difficult if not impossible to use audio-visual aids effectively. Here such problems are encountered as the absence of convenient electrical outlets, acoustical problems, lack of room-darkening facilities, ventilation problems, and rigid and inappropriate seating arrangements.

Further evidence on the extent to which school building problems still hamper the work of the schools is given in Table 37. Less than a third of the school systems participating in this study have them substantially solved. In 37 percent of the cities almost none of the school buildings are properly planned and equipped to make possible the effective use of audio and visual aids to learning. Cities with audio-visual departments seem to have made greater progress in necessary building alteration than cities without such departments, but size of city, in this instance, is not directly correlated with achievement.

TABLE 37.—EXTENT TO WHICH SCHOOL BUILDINGS ARE ADAPTED TO AUDIO-VISUAL EDUCATION

Group	Number reporting this item	Percent of cities reporting that, of all their school buildings, those adapted to audio-visual education include:		
		Nearly all buildings	Some, but by no means all	None, or very few
1	2	3	4	5
Having an audio-visual department	162	38%	38%	24%
Having no audio-visual department	837	29	32	39
Over 100,000	59	24%	51%	25%
30,000–100,000	108	39	36	25
10,000–30,000	225	33	34	33
5,000–10,000	283	29	30	41
2,500–5,000	324	28	29	43
All cities reporting	999	30%	33%	37%

Lack of funds—Related not only to equipment shortages but also quite directly to all the other problems thus far considered, is the fifth item in Table 36, "funds not available." As was stated in section V of this bulletin, minimum expenditures for audio-visual materials will result, necessarily, in the meager use of such materials. This survey yields no absolute standards for audio-visual costs, but it is hoped that sufficient incentive to reexamine such expenditures has been provided. No school system can rightfully expect its teachers to make effective use of audio-visual materials if its expenditures on audio-visual education are wholly inadequate. In other words, a per pupil

outlay of only 33 cents is unlikely to result in a two-dollar program.

Other problems—The last three items in Table 36—inconvenience of supply, and the attitude of the schoolboard and superintendent, respectively—seem to be of a different order from the problems that have been cited. In scattered instances these obstacles may be quite important, even the major ones that must be overcome; but generally speaking they are regarded as far less troublesome than the barriers previously considered.

Statewide Plans Recently Launched

In this summary of current trends it seems appropriate to make at least casual mention of a number of statewide programs that have been announced to promote the wider use of audio or visual materials.

The appropriation of $1,112,530 by the Virginia legislature in 1945 represents one of the most extensive statewide efforts to encourage audio-visual education. These funds will be used not only for the purchase of equipment but also to establish film libraries at the state capital and in each of the teachers colleges. In progress, too, is an extensive program of preservice and in-service education for teachers in selecting and using audio-visual materials.[1]

In Nebraska a broad experimental program has been launched thru the state university and the five colleges of teacher education in using sound motion pictures in the small rural high schools of the state. More than 100 schools are cooperating and careful evaluation of procedures and results will be attempted. The study is supported jointly by the state university, the state department of education, a films corporation, and a foundation interested in educational research. The results should influence practice in rural high schools not only thruout Nebraska but in other neighboring states as well.[2]

In Arizona a number of the schools of the state have taken the initiative in establishing film libraries in the teachers colleges at Flagstaff, Tempe, and Phoenix. Here, thru local initiative, is the nucleus for a potential statewide system of audio-visual leadership and service.[3]

In Indiana a committee of the state department of public instruction was created early in 1946 to consider the need for a state audio-visual department and to develop the principles and plans for the development, scope of activity, and operating procedures of such an agency.[4]

A different area of statewide activity that now is peculiarly significant is that of FM (frequency modulation) broadcasting. As radio equipment becomes available the schools must indicate with reasonable promptness whether or not they want, and are prepared to make effective use of, the twenty channels now set aside for education.

Among the city-school systems that have pioneered in this field are Cleveland, Chicago, New York, and San Francisco. Six educational FM stations were actually on the air by October 15, 1946; twenty-one were under construction; the applications of twenty-three educational agencies for FM licenses were pending imminent decision; and twenty-one additional applications had been filed.[5] No less than thirty-five of the fifty-eight state universities are actively considering FM broadcasting, the plans having reached various stages of development.

Among the states that have shown extensive interest in statewide FM networks, Wisconsin is farthest along with its program: with two stations under construction, plans for the eventual development of at least five or possibly seven additional stations, funds already provided by the legislature to develop and operate the program, and a widely representative state council to administer the project. Some kind of planning for FM broadcasting is going forward in at least forty states, including plans for substantial statewide coverage by educational stations in thirty-one states. State plans which, because of unique features or the substantial progress which they represent, seem to merit special mention are: Maryland's five-station network, Virginia's plan for twelve FM stations, the fifty-eight-station network proposed for Texas, the four-station plan for Connecticut, and the rather well-developed plans for statewide coverage in Kentucky, Michigan,

[1] Brown, J. W. "Virginia Steps Out in Audio-Visual Education." *Journal of the National Education Association* 35: 176-77; April 1946.
[2] See *Nation's Schools* 38: 82; October 1946; or *School Executive* 66: 47; October 1946.
[3] Shelly, Del. "Visually Progressing." *Arizona Teacher-Parent* 34: 24; March 1946.
[4] "Indiana Plans Vital Audio-Visual Program." *School Management* 15: 416; March 1946.
[5] Federal Communications Commission. "Educational Broadcast." *News Release.* October 14, 1946.

Ohio, Indiana, South Carolina, and Louisiana.

School systems interested in establishing their own local FM stations must look forward to initial expenditures of from $25,000 to $50,000 for broadcasting equipment—which is much less, of course, than the usual investment required for standard AM transmitters. Schools not expecting to establish FM stations will watch with interest the statewide FM networks in order to take full advantage of their contributions to the school program.[6]

Other New Developments

Comparative newcomers in the field of audio-visual education which educators will watch with interest are: voice recording by means of a magnetized wire or tape, adaptations of microfilming for school use, stereographic projection, and television. Already the first of these has won a place for itself in a few of the larger audio-visual programs. From time to time experimental work with other new devices is certain to appear, such as the program of television in schools now being carried on in Chicago in cooperation with a manufacturer of television equipment.

Programs Adapted to Needs

Partly because the extensive use of audio-visual materials is of recent origin, a word of caution may not be inappropriate. This is an area in which educators should refrain from merely keeping up with the Joneses. When equipment and materials are provided for use in the schools the selection should be made, not in terms of what some other school has selected, but in terms of what is needed to achieve the school's own goals. No type of aid should be used to the exclusion of other types, for none is a panacea to cure all teaching ills. Projected materials have their place, as do recordings, radio, and other mechanized devices. But alongside these aids the good teacher still will use such time-honored and simple devices as maps, charts, flat pictures, models, and blackboard sketches.

Use of audio-visual materials is not an end in itself but rather one of the essential tools for artistic teaching. The best service that can be rendered to teachers, therefore, is provision of an abundant supply of varied and well-selected materials, classified and distributed in such a way that they are always readily accessible as classroom needs arise.

[6] For information and technical advice on FM broadcasting, inquiries may be addressed to the Director of Radio Service, U. S. Office of Education, Federal Security Agency, Washington 25, D. C.

Sources of Information for the Audio-Visual Leader

The references given here are a minimum list, carefully selected with a view to giving teachers and others relatively new to the field a helpful start in familiarizing themselves with audio-visual education. Only a few of the basic sources and some of the most practical helps have been included.

A. Professional Books, Handbooks, and Bulletins:

1. Abbot, Waldo. *Handbook of Broadcasting.* New York: McGraw-Hill Book Co., 1946. 422 p.
2. Bathurst, Effie G. *Phonograph Records as an Aid to Learning.* Albany: University of the State of New York and State Education Department, 1943. 171 p.
3. Business Screen. *Projectionist's Handbook.* Chicago: Publishers of Business Screen (157 E. Erie St.), 1946.
4. Dent, Ellsworth C. *The Audio-Visual Handbook.* Chicago: Society for Visual Education, 1946. 226 p.
5. Encyclopaedia Britannica Films. *How To Run a Film Library.* Chicago: Encyclopaedia Britannica Films, 1946. (Available on request.)
6. Federal Security Agency, U. S. Office of Education. *Radio Bibliography; Educational Radio Script and Transcription Exchange.* Washington, D. C.: Superintendent of Documents, Government Printing Office, 1945. 16 p.
7. Laine, Elizabeth. *Motion Pictures and Radio.* Publications of the Regents' Inquiry. New York: McGraw-Hill Book Co., 1938. 165 p.
8. Los Angeles Board of Education. *Audio-Visual Tools That Teach for Keeps.* School Publication No. 395. Los Angeles: the Board, 1944. 71 p.
9. McDonald, Gerald D. *Educational Motion Pictures and Libraries.* Chicago: American Library Association, 1942. 184 p.
10. McKown, Harry C., and Roberts, Alvin B. *Audio-Visual Aids to Instruction.* New York: McGraw-Hill Book Co., 1940. 385 p.
11. May, Mark A. *Motion Pictures for Postwar Education.* Commission on Motion Pictures in Education, Studies, Series I, Vol. 8, No. 21. Washington, D. C.: American Council on Education, 1944. 23 p.
12. Seaton, Helen H. *A Measure for Audio-Visual Programs in Schools.* Washington, D. C.: American Council on Education, 1944. 40 p.

B. Magazines and Trade Journals (devoted exclusively to audio or visual education):

1. *Business Screen.* O. H. Coelln, Jr., editor and publisher, 60 East Lake Street, Chicago, Ill.
2. *Educational Screen.* Published monthly except July and August by Educational Screen, Inc., Chicago, Ill.
3. *Film and Radio Guide.* Published nine times a year by Educational and Recreational Guides, Inc., Newark, N. J.
4. *Film Forum Review.* A quarterly, devoted chiefly to film use as a basis for adult forums. Institute of Adult Education, Teachers College, Columbia University, New York, N. Y.
5. *Film World.* Trade association magazine of the 16 mm. industry. Published monthly by Ver Halen Publications, Hollywood, Calif.
6. *FM and Television.* Milton B. Sleeper, editor and publisher, 240 Madison Ave., New York, N. Y.
7. *New Movies.* National Board of Review of Motion Pictures, 70 Fifth Avenue, New York, N. Y.
8. *See and Hear.* Nine issues, September thru May. Published by Audio-Visual Publications, Inc., Chicago, Ill.
9. *Service Bulletin.* Federal Security Agency, U. S. Office of Education, Federal Radio Education Committee, Washington, D. C. Published monthly during the school year.
10. *Visual Review.* An annual publication of the Society for Visual Education, Chicago, Ill.
11. *16 mm. Reporter.* David A. Bader, editor and publisher. 545 Fifth Avenue, New York, N. Y.

C. Guides to Recordings:

1. Miles, J. Robert. *Recordings for School Use.* Yonkers, N. Y.: World Book Co., 1942.
2. New York University Film Library. *Catalogue of Selected Educational Recordings.* New York: the Film Library, 1944.
3. *Parents Magazine.* The section each month entitled "Records Children Like."
4. Radio Committee, Audio-Visual Education Association of California, Southern Section. "Sources of Educational Records and Transcriptions." *California Schools* 17: 183-88; July 1946.

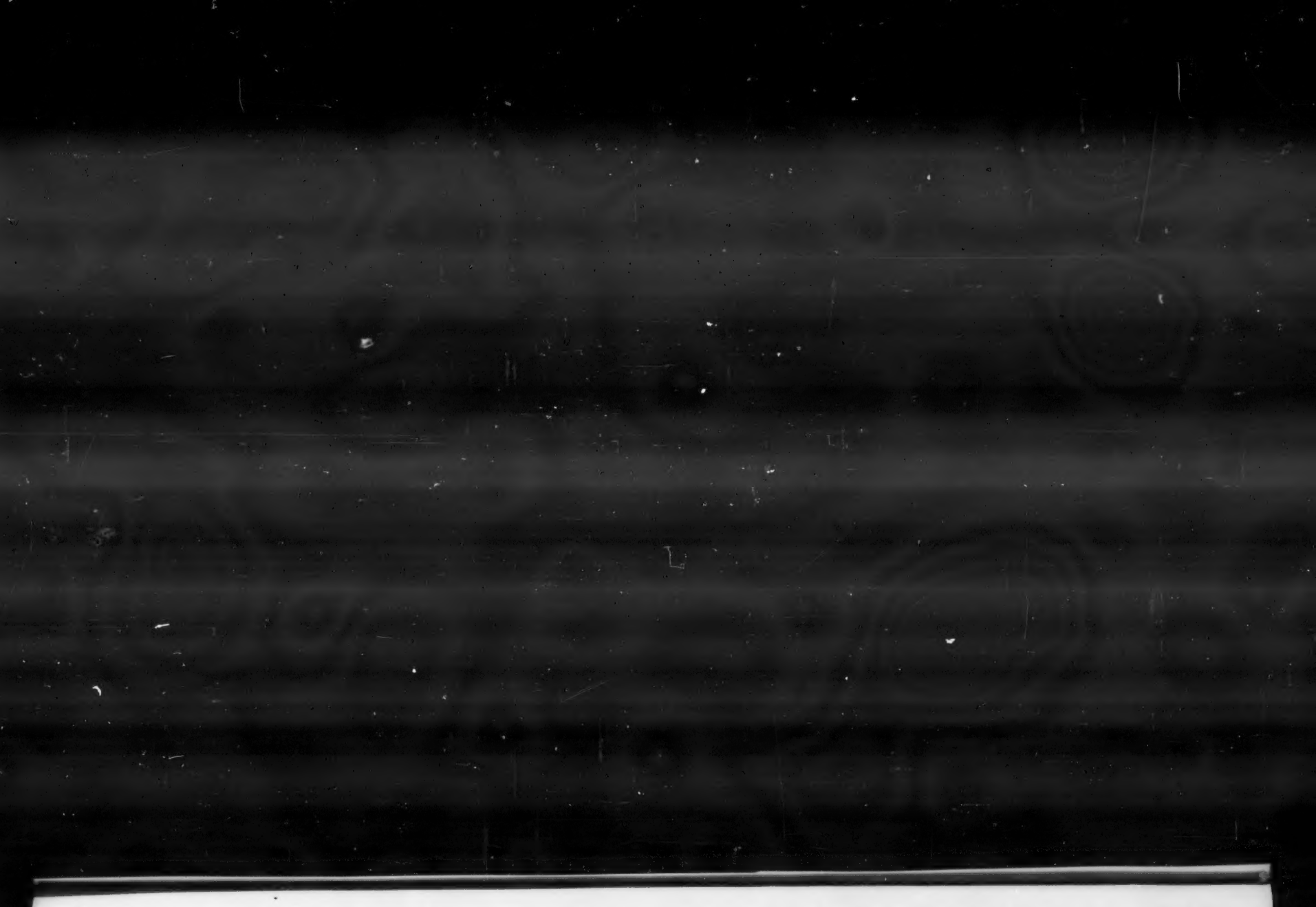
(See also the titles, "Bathurst," and "Federal Security Agency," in Part A. Consult the audio-visual center of your state department of education or state college or university, if such a center is maintained in your state.)

D. Guides to Motion-Picture Films:

1. Business Screen. *Index of Training Films.* Chicago: Business Screen, 1946.
2. Cook, Dorothy, and Rahbek-Smith, Eva. *Educational Film Guide.* New York: H. W. Wilson Co., 1946. 523 p. (Published annually, with monthly supplements.)
3. Educational Screen. *1000 and One.* Twenty-First edition. Chicago: Educational Screen, Inc., 1946. (Published annually.)
4. Educators Progress Service. *Educators Guide to Free Films.* Sixth edition. Randolph, Wis.: the Service, 1946. 303 p. (Mimeo.)
5. U. S. Department of Agriculture. *Motion Pictures of the U. S. Department of Agriculture.* Misc. publication, No. 574. Washington, D. C.: Superintendent of Documents, Government Printing Office, 1945.

Nearly all the producers and distributors of nontheatrical films have catalogs of those available thru their respective agencies. Lists of such distributors are given in several of the film guides listed above. Also, an extensive list of film distributors—NAVED members—appeared in the November 1946 issue of *NAVED News,* service bulletin of the National Association of Visual Education Dealers, 431 South Dearborn Street, Chicago, Illinois. Use of such lists will help to locate the distributing agencies best situated to serve a given geographic area.

Several state departments of education have published monographs on visual education, including film sources, for the guidance of schools in their own states. Colleges and universities that operate film libraries usually have printed or mimeographed lists of their films and the same is true for some of the larger audio-visual departments of city-school systems. In most cases, the state department should be able to refer an inquirer to some of the most convenient film sources in the state and region.

Because of current widespread interest in international relations special mention should perhaps be made of: (1) the film list, *Films on the United Nations,* United Nations Educational Services Section, Box 1000, New York 1, New York; (2) the teaching films produced for the Coordinator of Inter-American Affairs and distributed by the International Film Foundation, 1600 Broadway, New York; and (3) the distributor, Films of the Nations (18 West 55th Street, New York), specializing in documentary films produced abroad.

WHILE it is true that the last ten years have witnessed a terrific upsurge in the production of materials and equipment in the field of visual education, there is still much to be gained and much to be explored. If visual education is really to function as a part of general education, it must be taken up as a serious program for investigation, selection, and utilization by the subjectmatter fields which visual materials so ably serve.—*Walter A. Wittich, president, NEA Department of Visual Instruction.*